FACTORS THAT PROMOTE EXCLUSIVE BREASTFEEDING AMONGST MOTHERS AT A HOSPITAL IN WINDHOEK, NAMIBIA

BY

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Thesis presented in fulfilment of the requirements
for the degree of Master of Nursing Science
in the Faculty of Medicine and Health Sciences
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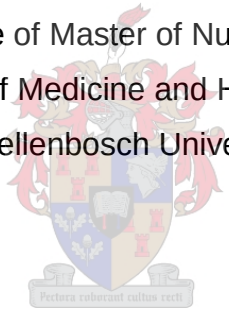

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ABSTRACT

Background

Exclusive breastfeeding (EBF) refers to the practice of giving a newborn infant only breast milk up to the age of six months.

EBF rates remains low at 42% globally and according to the World Health Organization (WHO), 823 000 infant deaths can be avoided annually if EBF is universally implemented. The WHO targets an EBF rate of 70% globally by 2030 and the Namibian rate was only 19% in 2017. There is limited information in Namibia on the factors promoting EBF. The purpose of the study was to investigate the factors that promote EBF amongst mothers at a public health facility in Windhoek, Namibia.

Methods

A quantitative, cross-sectional and comparative descriptive design was used. The target population was all mothers aged 18 years or older, with infants aged between 0 and 6 months who attended the public health care facility within the three months' study period. The researcher collected data from 270 mothers. The participants completed a self-administered questionnaire. Data was analysed with the assistance of a biostatistician using descriptive and inferential statistics. Ethical considerations of the rights to self-determination, confidentiality, anonymity, as well as the right to protection from harm were observed. Ethics approval was obtained from the Health Research Ethics Committee of Stellenbosch University (S19/06/112) and from the Research Ethics Committee of the Ministry of Health and Social Services in Namibia (17/3/3/RMN) prior to data collection.

Results

The study revealed that the overall prevalence of EBF was 87.8% (n=237) among the participants. No significant socio-demographic or sociocultural predictors of EBF were identified. Among the biophysical factors, having more than two pregnancies and more than two children were found to be significant predictors of EBF (OR=2.9, CI=1.0 to 8.4, p=0.05), (OR=3.2, CI=1.0 to 10.1, p=0.05). The mothers had an average knowledge score of 76.3% (SD 10.7) and an average attitude score of 76.2% (SD 7.8)

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with no significant difference in the scores between the EBF group and the non-EBF group.

Conclusion

The prevalence of EBF in this study was high compared with the national prevalence and may be an indication that if mothers can be encouraged to attend maternal health services, the general EBF prevalence can increase. It appears if having more than two children promotes EBF practices and that other factors may have a smaller effect on EBF practices as contradictory results were reported in the literature. Therefore, it can be recommended that the current breastfeeding policies should be implemented in full to support mothers, in particular new mothers. Health education on EBF should be provided during the perinatal period and up to six months to ensure that mothers practice EBF.

Key words: Exclusive breastfeeding, Factors, Mothers

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OPSOMMING

Agtergrond

Eksklusiewe borsvoeding (EBF) verwys na die gebruik om pasgebore babas tot die ouderdom van ses maande net borsmelk te gee.

EBF-koerse bly wêreldwyd laag op 42% en volgens die Wêreldgesondheidsorganisasie (WGO) kan 823 000 sterftes by babas jaarliks vermy word as EBF universeel geïmplementeer word. Die WGO het 'n EBF-koers van 70% wêreldwyd teen 2030 en die Namibiese koers was slegs 19% in 2017. Daar is beperkte inligting in Namibië oor die faktore wat EBF bevorder. Die doel van die studie was om die faktore te ondersoek wat EBF onder moeders by 'n openbare gesondheidsinstelling in Windhoek, Namibië, bevorder.

Metodes

'N Kwantitatiewe, dwarsdeursnee en vergelykende beskrywende ontwerp is gebruik. Die teikenpopulasie was alle moeders van 18 jaar of ouer, met babas tussen 0 en 6 maande wat binne die studieperiode van drie maande die openbare gesondheidsorgfasiliteit bygewoon het. Die navorser het data van 270 moeders versamel. Die deelnemers het 'n self-geadministreerde vraelys voltooi. Data is geanaliseer met behulp van 'n biostatistikus met behulp van beskrywende en afleidende statistieke. Etiese oorwegings van die regte tot selfbeskikking, vertroulikheid, anonimiteit, sowel as die reg op beskerming teen skade, is waargeneem. Etiese goedkeuring is verkry deur die Etiese Komitee vir Gesondheidsnavorsing van die Universiteit Stellenbosch (S19 / 06/112) en van die Navorsingsetiekkomitee van die Ministerie van Gesondheid en Maatskaplike Dienste in Namibië (17/3/3 / RMN) voordat data versamel is.

Resultate

Die studie het aan die lig gebring dat die algehele voorkoms van EBF 87.8% (n = 237) onder die deelnemers was. Geen beduidende sosio-demografiese of sosiokulturele voorspellers van EBF is geïdentifiseer nie. Onder die biofisiese faktore was meer as twee swangerskappe en meer as twee kinders as beduidende voorspellers van EBF (OR=2.9, CI=1.0 to 8.4,p=0.05), (OR=3.2, CI=1.0 to 10.1, p=0.05) geïdentifiseer. Die moeders het 'n gemiddelde kennis telling van 76.3% (SD 10.7) en 'n gemiddelde

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houding telling van 76.2% (SD 7.8) gehad, sonder beduidende verskille in die tellings tussen die EBF-groep en die nie-EBF-groep.

Slotsom

Die voorkoms van EBF in hierdie studie is hoog in vergelyking met die nasionale voorkoms en kan 'n aanduiding wees dat as moeders aangemoedig kan word om moedergesondheidsdienste by te woon, die algemene voorkoms van EBF kan toeneem. Dit blyk dat, om meer as twee kinders te hê, EBF-praktyke bevorder, en dat ander faktore 'n kleiner invloed op EBF-praktyke het, aangesien die literatuur ook teenstrydige resultate toon. Daarom kan aanbeveel word dat die huidige borsvoedingsbeleid ten volle geïmplementeer moet word om moeders, veral nuwe moeders, te ondersteun. Gesondheidsopvoeding oor EBF moet gedurende die perinatale periode en tot ses maande aangebied word om te verseker dat moeders EBF beoefen.

Sleutelwoorde: Eksklusiewe borsvoeding, Faktore, Moeders

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ABBREVIATIONS

ANC	Antenatal care
BFHI	Baby-friendly Hospital Initiative
BMFI	Baby and Mother Friendly Initiative
EBF	Exclusive breastfeeding
HIV	Human immunodeficiency viruses
IYCF	Infant and Young Child Feeding
KHC	Katutura Health Centre
MeSH	Medical Subject Heading
MoHSS	Ministry of Health and Social Services
NDHS	Namibian Demographic and Health Statistics department
OR	Odds Ratio
RMC	Research Management Committee
SPSS	Statistics Package for the Social Sciences
HREC	Health Research Ethical Committee
REC	Research Ethical Committee
UNICEF	United Nation International Children's Emergency Fund
WCH	Windhoek Central Hospital
WHO	World Health Organization

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CHAPTER ONE
FOUNDATION OF THE STUDY

1.1 Introduction

Exclusive breastfeeding (EBF) refers to the practice of giving a newborn infant breast milk only up to the age of six months; thus no other milk or food is given with the exception of vitamin and mineral supplements required for medical reasons (Kokushubira, Kiwanuka & Maluka, 2017:42). The World Health Organization recommended the practice of EBF during the first six months of life to achieve optimal health, growth and development (WHO, 2015:1). The health benefits of EBF to the infant and to the mother are well documented in the literature. According to Dalcastagnê, Giugliani, Nunes, Hauser and Giuglian (2018:533) breast milk provides nutrients to meet the growth needs and immunological necessities, to protect against infections and subsequent mortality. In light of these benefits, failure to breastfeed is considered a threat for infant survival globally.

A study performed in 2017 revealed that EBF in Namibia remains low (Indongo & Mutorwa, 2017:159). Globally 42% of children were breastfed exclusively in 2017 (WHO, 2018:2) and it has been stagnant at 38% since 2010. In Namibia the EBF percentage was only 23.9% in 2010 and dropped to 19% in 2017(Indongo & Mutorwa, 2017:159). The 2017 Namibian data on the EBF prevalence, is the most recent available data (Indongo & Mutorwa, 2017:159). There is a need to develop a Namibian nutritional strategy for EBF, to increase the target to at least 70%, as specified by the WHO Breastfeeding Policy Brief (WHO, 2018:4). Therefore, a study to examine the factors that promote EBF in Namibia was conducted. This research study may inform policy guidelines to promote EBF in Namibia.

1.2 Rationale

The WHO (2015:1) recommends EBF because it is beneficial to both mothers and babies. Many studies have been conducted on EBF regionally in Angola (Dalcastagnê et al., 2018:533); Tanzania (Maonga, Mahande, Damian & Msuya 2016:84); South Africa (Jama, Wilford, Masango, Haskins, Coutsoudis, Spies, & Horwood, 2017:10; Nieuwoudt, Ngandu, MandersonI & Norris, 2019:17); Cameroon (Tambe, Mimboe,

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Nchung, Bakwo, Nyobe, Pauline & Nzefa, 2018:1); and Namibia (Indongo & Mutorwa, 2017:166). These studies revealed that variables such as age, prenatal care, employment and having a female child were positively associated with EBF. Conversely, the studies indicated that workplace environment, a lack of employment benefits and labour intensity negatively affected breastfeeding practices.

Studies conducted in the Congo (Babakazo, Donnen, Akilimali, Ali & Okitolonda ,2015:3), Ethiopia (Tewabe, Mandesh, Gualu, Alem, Mekuria & Zeleke ,2017:2), Kenya (Wanjohi, Griffiths, Wekesah, Muriuki, Muhia, Musoke, Fouts, Madise & Kimani-Murage, 2016:4) and South Africa (Jama et al., 2017:10), revealed that EBF practices are attributed to several factors; namely socio-demographic, economic, knowledge, psychosocial, biophysical and socio-cultural factors. Additionally, studies conducted in Kenya (Odeny, Pfeiffer, Farquhar, Igonya, Gatuguta, Kagwaini, Nduati, Kiarie & Bosire, 2016:7) and Tanzania (Maonga et al., 2016:84), among HIV-positive mothers, reported that most mothers refused to breastfeed exclusively because of the fear of stigmatization and the violation of societal norms. The Sustainable Developmental Goals numbers two and three aim to end hunger, achieve food security, improve nutrition, ensure healthy lives, and promote wellbeing for all (Renwick, 2015:17). These goals can be achieved with EBF as it will decrease the infant mortality rate related to under-nutrition (Renwick, 2015:17).

In 1992, The Baby and Mother Friendly Initiative (BMFI) Policy and Guidelines was published in Namibia (MoHSS, 2011:2). This guideline was adapted from the WHO Baby-friendly Hospital Initiative (BFHI) programme of 1991 (WHO, 2017:10). Later, in 2003, the Namibian Ministry of Health and Social Services (MoHSS) (2011:2) introduced the Namibia National Policy on Infant and Young Child Feeding (IYCF) to supplement the existing Baby and Mother Friendly Initiative Policy and Guidelines. These policies reflect the Government of Namibia's commitment to promote and support EBF for the first six months and continued breastfeeding up to two years and beyond. Following the WHO guidelines on infant feeding in HIV positive mothers for 2010 and recently 2016, Namibia adopted these guidelines to promote EBF among HIV positive mothers (MoHSS, 2011:3).

In 2017, a study was done in Namibia that focused on a general description of EBF practices without focusing on the aspects that can promote EBF (Indongo & Mutorwa,

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2017:167). This study recommended that there is a need for the Government of Namibia to implement an infant feeding policy in the context of the WHO/UNICEF Global Strategy for Infant and Young Child feeding; considering all socio-economic, demographic and behavioural factors that influence or hinder the practice of EBF (Indongo & Mutorwa, 2017:167). Therefore, a study that specifically focuses on factors that promote EBF practices amongst mothers was needed in Namibia. The findings of this study will be used to identify specific factors that promote EBF among mothers in Windhoek, Namibia, to ultimately provide recommendations to the Ministry of Health and Social Services (MoHSS) in the development of strategies for the promotion of EBF.

1.3 Problem Statement

The Namibian National Policy on Infant and Young Child Feeding was implemented in 2003 and amended in 2011 and 2016. This policy was implemented to empower all women to breastfeed exclusively for six months and continue with adequate complementary foods for two years or beyond and to create an environment that promotes, protects, and supports sound infant and young child feeding practices in Namibia (Namibia National Policy on Infant and Young Child Feeding 2003:10-11; MOHSS National Guidelines on Infant and Young Child Feeding 2011:1). However, despite the implememtation of this policy, the EBF rate remains low in Namibia. The EBF rate in Namibia was 24% in the previous decade (National Health Framework Policy, 2010:10). In 2017, despite the proved benefits of EBF to mothers and their infants, the EBF rate in Namibia was 19%, which is low, compared to the global average of 42% and the WHO's target of 70%. Studies have revealed that factors associated with the drastic drop of EBF within 2017, was the age of mother, employment status, education level, birth order and age of the child (EBF decreases with increasing age of a child) (Indongo & Mutorwa, 2017:163; Ndirangu, Gatimu, Mwinyiand & Kibiwott 2018:8).Failure to improve the rate of EBF in Namibia, will continue to contribute to poor infant health and a high infant mortality rate (Kokushubira et al., 2017:42). Given the observed decrease in EBF practiced in Namibia, there is a need to investigate the factors that promote EBF in the country. The findings of this research may inform policy and guidelines on the factors that promote EBF in Namibia.

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1.4 Research Question

What are the factors that promote EBF amongst mothers at a public health facility in Windhoek, Namibia?

1.5 Research Aim

The aim of this study was to investigating the factors that promote EBF amongst mothers at a public health facility in Windhoek, Namibia.

1.6 Research Objectives

The objectives of the study were:

1. To identify and describe the socio-demographic and economic factors that promote EBF among mothers.
2. To identify and describe the psychosocial and biophysical factors that promote EBF among mothers.
3. To identify and describe the socio-cultural factors that promote EBF among mothers.
4. To determine whether EBF knowledge is associated with EBF.

1.7 Conceptual Framework

A conceptual framework includes the variables of the phenomenon of interest and expected relationships between variables. The framework embodies the researcher's synthesis of literature on how to clarify a phenomenon (Grove, Burns & Gray, 2015:192). The conceptual framework of this study was based on the literature review (see Figure 1.1) The framework comprises four components, which are likely to promote motivation and intention towards EBF, namely, a) socio-demographic and economic, b) knowledge, c) psychosocial and biophysical d) socio-cultural. These components are the independent variables that are likely to increase a mother's motivation to exclusively breastfeed and ultimately adopt EBF practices (dependent variable). In this study, EBF practice was the dependent variable. The relationships between the variables are indicated in the conceptual framework portrayed in Figure 1.1. The components of this framework will be explained further in Chapter Two.

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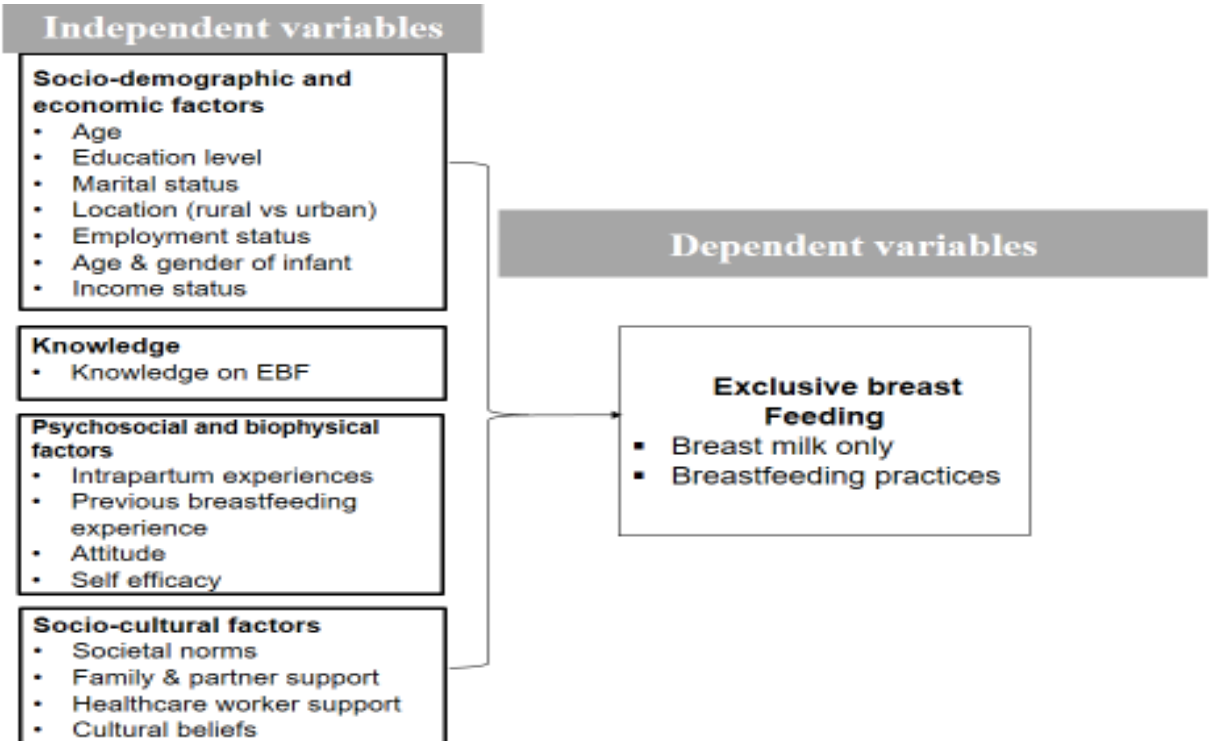

Figure 1.1 Conceptual framework based on the literature review

1.8 Research Methodology

A quantitative research approach was identified as the most appropriate to gather and analyse the views of the participants on the factors that promote EBF in Namibia (Polit & Beck, 2017:2019). A summary of the methodology is portrayed in Figure 1.2, and the details of the methodology are provided in chapter three.

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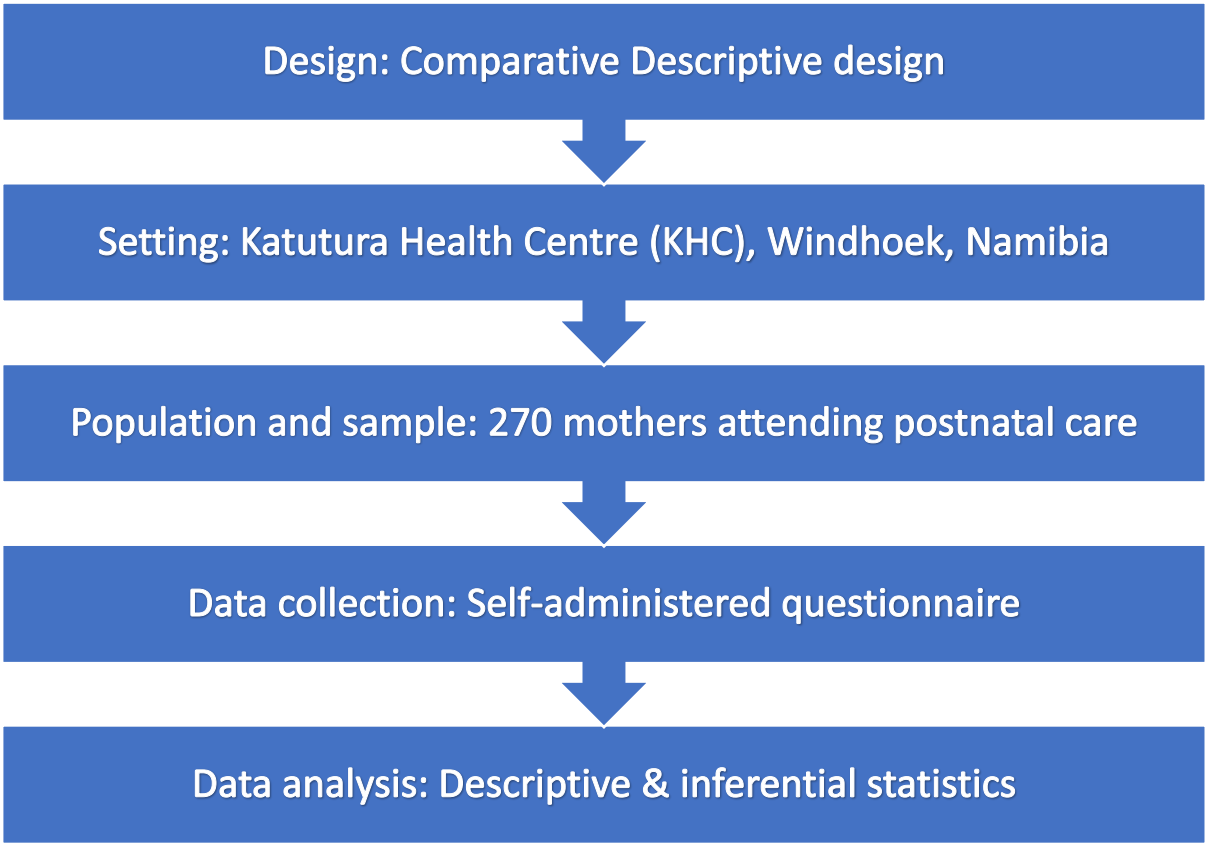

Figure 1.2 Summary of the methodology

1.8.1 Research design

A quantitative, cross-sectional, and comparative descriptive design was used (Polit & Beck, 2017:201). The quantitative approach was selected because factors that promote exclusive breastfeeding were studied by way of precise measurement and quantification of variables, without any manipulation of variables or any interventions (Polit & Beck, 2017:201). The researcher sought to describe the phenomenon as it was at a particular time, making it descriptive and cross-sectional in nature (Grove et al., 2015:212). According to Grove et al. (2015:216) a comparative descriptive design describes variables and examine differences in variables in two or more groups that occur naturally in a setting.The comparative design compares descriptive data obtained from different groups using variables such as gender, age, education level and medical diagnoses.Thus the comparative aspect was added to the design, as the researcher sought to compare the responses of mothers who practised EBF to the responses of mothers who did not practise EBF, to identify the factors that promote EBF.

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1.8.2 Study setting

The study was conducted in Katutura Health Centre (KHC) in Windhoek. This centre is in the Katutura district of Windhoek. Katutura Health Centre is a primary health care facility providing outpatient services such as immunization, antenatal care, treatment of minor illnesses and postnatal care for mothers and babies.

Figure 1.3 Katutura District Windhoek, Namibia (https://nona.net/features/map/placedetail.2359517/Katutura/)

1.8.3 Population and sampling

The population included all mothers who were practicing EBF and those not practicing EBF who came to KHC within the three months' study period for postnatal care. A total of 270 women were recruited.

1.8.4 Instrumentation

A self-administered questionnaire designed in English and translated into Oshiwambo was used to collect data. The first language of the patients is Oshiwambo, therefore the questionnaire was translated, (Annexure 6), to accommodate patients who were not comfortable with the English language. The questionnaire was adapted from other questionnaires with prior permission from the authors. Two, experienced Advanced

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Midwives, who are breastfeeding experts as well as two midwifery academics with master's degrees, were utilized to review the questionnaire.

1.8.5 Pilot study

The self-administered questionnaire was tested with a sample of 30 mothers in the Windhoek Central Hospital. This equates to 10% of the sample population. The pilot study was conducted to ensure that participants understood the questions. Some questions were unclear, however the researcher was able to clarify the questions in non-technical language. This data was not included in the analysis.

1.8.6 Reliability and validity

Brink, Van der Walt and Van Rensburg (2018:155) explained reliability in terms of the consistency of the results obtained. To ensure reliability in this study, the researcher performed a pilot study with 30 participants, using the same questionnaire. In addition, Cronbach alpha was calculated for the Likert scale items, measuring the same concept for example attitudes. Validity was ensured by adapting the questionnaire from published questionnaires and the use of literature to construct the adapted questions related to factors promoting EBF among mothers. Content validity was ensured by having the questionnaire reviewed by breastfeeding experts and midwifery academics.

1.8.7 Data collection

Data was collected using a structured self-administered questionnaire from April 2020-June 2020. The researcher approached the mothers on Monday and Fridays at KHC, at the immunization and post-natal room while they were waiting to be called in for service. Mothers were provided with information about the study in the waiting room and written informed consent was obtained from the participants in a private counselling room at KHC. Those who provided written informed consent, were requested to complete the self-administered questionnaire in a private counselling room at KHC.

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1.8.8 Data analysis

The Statistical Package for the Social Sciences (SPSS) and STATA were used to analyse data with the assistance of a biostatistician. Descriptive statistics was used to describe the demographics and variables.

1.9 Ethical Considerations

The study was conducted following the ethical guidelines and principles enshrined in the International Declaration of Helsinki (2013:1-4). Ethical clearance was obtained from the Health Research Ethics Committee (HREC) of Stellenbosch University (reference number S19/06/112) and the Research Management Committee (RMC) of Namibia (protocol number 17/3/3RMN). Permission was also obtained from the management offices of both the Windhoek Central Hospital where the pilot study was done, and the KHC, where the main study was carried out. A copy of the approval letters is attached in Annexures 1-4.

This data was collected in 2020 during the global COVID-19 pandemic. In Namibia there was a lockdown of three months. On the 27th of March 2020 at 23:59, the country went into a full lockdown that lasted until 17th April 2020, however, local movement was allowed. The mothers could bring their babies for scheduled immunization and post-natal follow up care. Wearing of a surgical mask was compulsory for everyone entering the health centre including the researcher, hand hygiene was performed before entering the facility and before and after every procedure. The mothers were informed by the researcher to sit one metre apart in the open waiting area and pamphlets were posted in the health facility on COVID-19 measures. During the information session and while completing the questionnaire in a private room, one metre distance was maintained between the researcher and the participants.

1.9.1 The right to self-determination

The participants right to self-determination was respected by seeking their written informed consent. The researcher provided the participants with an information leaflet wherein the study details were described, as well as the participants' expected role in the study. Only those mothers who displayed an understanding and comprehension of the information and who provided written informed consent, (Annexure 5), were selected for the study.

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1.9.2 The right to confidentiality and anonymity

The researcher is employed as a claims officer at Momentum Metropolitan Namibia and does not work at the KHC. The participants' confidentiality was ensured by using numbers example 1-270 on the questionnaire and not their names, so that no responses could be linked to a specific respondent. Numbers were used to address participants to ensure that their confidentiality was respected. The participants were informed that they may withdraw from the research study at any point without any explanation. The participants were also reassured that they have the right to omit or refuse to answer or respond to any question, without penalty. The participation rate was 100% as no participants withdrew from the study.

Electronic data storage devices with participants' information were encrypted with a password when not in use and external hard drives used to back up the data were kept in a locked safe cabinet. The completed questionnaires and the informed consent forms are stored separately and locked in a cabinet at the researcher's office. Only the researcher, supervisors and the biostatistician have access to the study data. The electronic data file that was shared with the biostatistician contained coded data with no personal identifiers.

1.9.3 Beneficence and non-maleficence

The participants were protected from emotional harm, as provision was made for referral to the psychological services at KHC, if a participant experienced any emotional distress. None of the participants experienced emotional distress. The participants were only providing responses and not participating in any experiments or interventions. The study may have caused them discomfort as it took between ten to twenty minutes to complete the questionnaire. No cost was incurred to participate in the study. The participants did not directly benefit, but the information could be used to develop strategies to promote EBF. A refreshment of a cooldrink 330ml costing R8 was provided to all participants.

1.10 Definitions

Mothers: Refer to a woman who can bring up (a child) or give birth to a child (WHO, 2015:2).

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Breastfeeding is defined as the natural way of providing young infants with the nutrients they need for their growth and development (WHO, 2015:2).

Exclusive breastfeeding: The practice of giving a newly born infant breast milk only from the date of birth up to six months, without giving it any other food; neither liquid nor solid, except when vitamins and minerals are required for medical reasons (WHO,2015:2).

Breastfeeding duration: The length of time for any breastfeeding, including time taken to exclusively breastfeed a baby usually six months or any period of complementary feeding until weaning (WHO, 2015:2).

1.11 Duration of the Study

Table 1.1below illustrates the study timeframe.

Table 1.1 Study time frame

Year	Month	Activity
2019	June	Presentation of proposal.
2019	September	Submission of proposal to ethics committee
2019	September	Provincial/institutional permission
2020	March	Pilot test/training of field workers
2020	April to June	Data collection
2020	July to August	Data analysis
2020	August to December	Thesis writing with continuous review
2020	August to December	Technical and grammar editing
2020	December	Thesis submission

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1.12 Chapter Outline

Chapter One: Foundation of the study

The chapter introduced the study and provided a background leading to the problem identified. The research questions and objectives are indicated and a brief on the methods used is given.

Chapter Two: Literature review

A detailed discussion of the literature of EBF, based on the objectives is described in this chapter.

Chapter Three: Research methodology

In this chapter, the research methodology applied to answer the research question is described.

Chapter Four: Results

The study results are presented in this chapter.

Chapter Five: Discussion, conclusions and recommendations

Chapter five provides the discussion, recommendations and conclusions based on the scientific evidence obtained in the study.

1.13 Significance of the Study

The WHO policy and Namibian policy on EBF recommends that mothers should exclusively breastfeed infants for the first six months to achieve optimal growth, development, and health. Despite these recommendations, the EBF rate in Namibia was at 19% in 2017. This low rate necessitates the need to investigate the factors that may promote the EBF in Namibia. This study has provided an understanding of the specific factors that promote breastfeeding and can serve as essential information for health care providers on how to ensure EBF and thus increase the rate of EBF in Namibia.

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Moreover, the information provided by this study will enlighten the MoHSS to develop strategies to inaugurate a new policy to promote EBF. Thereby, ensuring quality care and a high standard of support and health education on EBF for postnatal women.

1.14 Summary

In this chapter, an explanation was provided on the background, significance, and importance of research on factors that promote exclusive breastfeeding amongst mothers at a hospital in Windhoek, Namibia. This chapter included the introduction, rationale, problem statement, research question, aim and research objectives of the study. The conceptual framework that guided the research was presented. A general introduction of the research methodology was provided. The quantitative, cross-sectional, comparative descriptive design was the most appropriate method to achieve the aims and objectives of this study.

The literature review, which follows in chapter two provides a synthesis of the relevant literature on EBF in Namibia, Africa and globally.

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CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

This chapter provides a discussion on the relevant literature about the factors that promote exclusive breastfeeding (EBF). This literature review acquainted the researcher with the latest developments in the area of the study (Grove et al., 2015:63). The preceding chapter introduced the background and the rationale of the study. Overall, this chapter presents the analysis and the synthesis of relevant empirical studies, which aimed to answer the research question as well as provide research-based evidence to support this research topic (LoBiondo-Wood & Haber, 2014:51). The literature identified provides a background to EBF and its benefits, the guidelines of EBF globally and the Namibian guideline, as well as a discussion of the factors promoting EBF based on the conceptual framework. In this review the researcher discusses research studies from developing countries specifically Africa and sub-Saharan-Africa as well as studies done in Namibia.

2.2 Electing and Reviewing the Literature

The electronic databases PubMed-Medline, Cochrane Library and the search engine of Google Scholar was searched to identify relevant published articles. The researcher used the Boolean operators AND, and OR to connect key words to search for information from the databases. The medical subject heading (MeSH) terms included EBF, factors, infant and promote. Both qualitative and quantitative articles published in English from the period 2011 to 2020 were reviewed concerning the factors that promote EBF. Online books, international reports and websites were also consulted when information was gathered and reviewed.

2.3 Background and Guidelines of EBF

2.3.1 Background of EBF

In 1989, the World Health Organization (WHO) and the United Nation International Children's Emergency Fund (UNICEF), launched the Ten Steps to Successful

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Breastfeeding which recommended that EBF be practiced. The ten steps to successful breastfeeding include the following (WHO, 1989:6):

1. Having a written breastfeeding policy that is routinely communicated to all health care staff.
2. Training the health care staff in the skills necessary to implement this policy.
3. Informing all pregnant women about the benefits and the management of breastfeeding.
4. Helping mothers to initiate breastfeeding within a half-hour of birth.
5. Showing mothers how to breastfeed, and how to maintain lactation if they are separated from their infants.
6. Giving new-born infants no food or drink other than breastmilk, unless medically indicated.
7. Practicing rooming-in by allowing mothers and infants to remain together for 24 hours a day.
8. Encouraging breastfeeding on demand.
9. Giving no artificial teats or pacifiers (also called dummies or soothers) to breastfeeding infants.
10. Fostering the establishment of breastfeeding support groups and referring mothers to these support groups on discharge from the hospital or the clinic.

The Ten Steps were introduced to guide the Baby-Friendly Hospital Initiative, so that the practice of breastfeeding initiation and breastfeeding duration will be increased and to curb maternal and infant mortality and morbidity challenges. This can be achieved by providing pregnant women and postnatal mothers with the essential information to make an informed choice about how to feed their infants, develop confidence in breastfeeding and providing skills to positively initiate and continue exclusive breastfeeding of their infants for at least six months (WHO, 1989:7).

Furthermore, the Ten Steps were introduced to provide health services with a background or with a standard protocol to address practices that have a negative effect on EBF (WHO, 1989:7). These practices include, separating infants from their mothers post-delivery, giving infants glucose water before latching onto the breast and the use of infant formula (WHO, 1989:3). Subsequently in 1991, the WHO launched the Baby Friendly Hospital Initiative (BFHI) programme to encourage maternal health

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facilities globally, to promote, to support, to protect and to implement the Ten Steps to Successful Breastfeeding. Despite the implementation of the Ten Steps, the global exclusive breastfeeding rate only increased from 33% in 1995 to 42% in 2018 (UNICEF & WHO, 2018:3).

In 2012, the World Health Assembly Resolution number: 65.6, endorsed a comprehensive implementation plan on maternal, infant and young child nutrition. The plan specified six global nutrition targets for 2025, one of which is to increase the rate of exclusive breastfeeding in the first six months up to at least 50% (WHO, 2018:1). The WHO target of 50% EBF by 2025 was set based on the previous targets and previous success rates of breastfeeding (WHO, 2017:1).

2.3.2 Guidelines for EBF

2.3.2.1 Global EBF guidelines

Since 1989, The WHO and UNICEF have developed several guidelines on infant breastfeeding with the aim of improving infant feeding practices. The WHO strengthened their efforts to promote breastfeeding by introducing The Global Strategy on Infant and Young Child Feeding in 2003. The aim of this policy was to improve optimal feeding, growth and development as well as survival of infants and young children (WHO, 2003:6). These aims were to be achieved through several objectives which include raising awareness on the main problems affecting infant and young child feeding, by identifying approaches to their solution and to provide an outline of essential interventions to solve the problems.

Additional objectives were to increase government and organisations' commitment to infant feeding and to create an enabling environment for breastfeeding. The Global Strategy on Infant and Young Child Feeding became a declaration signed by many countries who committed to the implementation of the Ten Steps to successful breastfeeding (WHO, 2003:7). The strategy also sought to: promote EBF for infants for the first six months, breastfeeding up to two years, provision of health education for mothers and paid maternity leave (WHO, 2003:7-8).

In 2010, the WHO introduced the first guideline on HIV and Infant Feeding. This guideline recommended that HIV positive mothers were to breastfeed up to 12 months

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only (WHO, 2010:6). However, revisions were made to the guideline in 2016 and 2018, which recommended that mothers living with HIV should breastfeed for at least 12 months and may continue breastfeeding for up to 24 months or longer, similar to HIV negative mothers (WHO, 2016:12) and (WHO, 2018:6). Consequently, the WHO equally recommended EBF for the first six months in both HIV positive and HIV negative mothers (WHO, 2017:15).

The WHO suggests that at least 823 000 infants' deaths could be avoided if EBF is universally implemented (WHO, 2017:6). Mekuria and Edris (2015:1) argue that globally, countries are burdened with high numbers of infant deaths and that infant deaths can be prevented if EBF is being practiced. The WHO targets an EBF rate of 70% globally by 2030. The current rate of 42% falls short despite the encouragement of EBF practices globally (Branca, Grummer-Strawn, Borghi, Blössner & Onis, 2015:55-58).

2.3.2.2 Namibian EBF guidelines

In 1992, the Namibia Ministry of Health and Social Services (MoHSS) launched the Baby and Mother Friendly Initiative (BMFI) Policy and Guidelines (MoHSS, 2011:3), which was adapted from the Baby Friendly Hospital Initiative (BFHI) programme of the WHO in 1991 (WHO, 2017:10). Later, in 2003 the MoHSS introduced the Namibia National Policy on Infant and Young Child Feeding (IYCF) to supplement the existing Baby and Mother Friendly Initiative Policy and Guidelines (MoHSS, 2011:2). These policies reflect the Government of Namibia's commitment to promote and to support EBF for the first six months and continued breastfeeding up to two years and beyond. Following the WHO guidelines of infant feeding in HIV positive mothers for 2010 and recently in 2016, Namibia adopted the WHO guidelines into the national guidelines to promote EBF among HIV positive mothers (MoHSS, 2017:32).

The Namibian Baby and Mother Friendly Hospital Initiative MoHSS (2011:3) emphasizes the promotion of the Ten Steps to Successful Breastfeeding in health care facilities, in homes, workplaces and the community in general. These ten steps act as a guideline for health care workers, mothers, employers and policy makers in facilitating EBF among mothers. Statistics of EBF, showed that the implementation of this policy resulted in an increase in EBF practices from 23.9% in 2006 to 48.5% in

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2013 (Namibia Demographic Health Survey, 2013:135). However, this figure has since dropped to 19% in 2017 due to a number of factors; i) maternal factors, for example, age, education, employment, socio-economic status, marital status; ii) the age of an infant and birth order; and iii) place of residence (Indongo & Mutorwa, 2017:162).

2.4 The Benefits of EBF

The WHO reports that EBF has health benefits for the mother, the infant and for a nation (WHO, 2017:1). Specifically, WHO guidelines (2017:1) indicates that breastfeeding decreases risk of morbidity and mortality of breast cancers for mothers, reduces child infections, improves intelligence for the baby and reduces mortality in children. The WHO further suggested that breastfeeding can save the world over U$ 300 billion globally in a year. The WHO (2017:2) also recommends that EBF interventions should be implemented in all facilities providing maternity and new-born services to promote, protect and support EBF to reduce maternal and infant morbidity and mortality. The myriad of benefits of EBF are documented extensively in the literature, and new benefits continue to be identified.

2.4.1 The benefits of EBF to the mother

Breastfeeding has several biophysical benefits to the mother. EBF increases the production of the oxytocin hormone during breastfeeding (Moberg & Prime, 2013:201). Mothers who practice EBF produce more oxytocin and prolactin (Augustine, Ladyman, Bouwer, Alyousif, Sapsford, Scott, Kokay, Grattan & Brown, 2017:3592). The study performed by Ebina and Kashiwakura (2012:337), stated that oxytocin levels in breastfeeding mothers are higher than those in mixed-feeding mothers. Thus, these findings propose that the blood pressure in breastfeeding mothers decreased in response to oxytocin release (Ebina & Kashiwakura, 2012:337). Oxytocin reduces the risk of breast cancer and ovarian cancer by inhibiting the proliferation, migration and invasion of cancer cells in the breast and ovarian cells (Aitskell, Green, Pirie, Barnes, Hermon, Reeves, Beral & Million Women Study Collaborators, 2018:281). Oxytocin also causes the contraction of the uterus thus reducing postpartum bleeding thereby preventing maternal mortality (WHO, 2018:1).

The high levels of oxytocin released during EBF is associated with lower levels of depression. This is achieved by oxytocin's anxiolytic-like calming effects on post-

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partum maternal mood swings (Niwayama, Nishitani, Takamura, Shinohara, Honda, Miyamura, Nakao, Oishi & Araki-Nagahashi, 2017:1). Anxiolytic-like refers to drugs which reduce anxiety (Konopka, Wysiecka & Samochowiec, 2016:327).

The hormone prolactin has a natural contraceptive action for breastfeeding mothers. Prolactin which is released during breastfeeding inhibits the release of the follicle stimulating hormone and the luteinizing hormone, thereby suppressing ovulation and menstruation (Al-Chalabi, Bass & Alsalman, 2020:2).

A study performed in Mexico to assess the associations between EBF and weight loss in adolescent and adult mothers, reported that EBF helps with weight loss. During breastfeeding, the hormone prolactin is triggered to stimulate milk production during lactation. The more prolactin released, the more energy is used to produce milk and the more body fat is being burned and reduced, thus weight loss occurs (Sámano, Martínez-Rojano, Martínez, Jiménez, Rodríguez, Zamora & Casanueva, 2013:124).

2.4.2 The benefits of EBF to the infant

Breastfeeding is considered as the golden miracle for infants. Breast milk provides all the nutrients that an infant need to promote healthy growth within the first six months (WHO, 2017:19). Bhattacharjee, Natalia, Lauren, Schaeffer, Laurie, Jennifer, Scott, James Albright, William and Gardner (2019:5-7) revealed that poor adherence to EBF among 49 African countries, whereby Namibia is included, increases the risk of infant morbidity and mortality. Similarly, according to Folami (2020:2) non-EBF during the first six months of life contributed to 13% of disease and resulted in 2.1 million deaths of infants under five in developing countries worldwide. A review of the literature by Sankar, Sinha, Chowdhury, Bhandari, Taneja, Martines and Bahl (2015:3) revealed that exclusively breastfed infants had a better functioning immunological system compared to those who were not breastfed.

A review by Jakaitis and Denning (2014:423) further revealed that breastmilk contains immunoglobulins that are known as antibodies that effectively prevent the entry of microorganisms in the tissues. These immunological benefits of breast milk protect the infant against infectious diseases, such as gastrointestinal infections, diarrhoea, as well as protecting the infants against the non-communicable diseases such as respiratory tract diseases.

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EBF provides an emotional benefit, because during breastfeeding maternal and infant bonding occurs (UNICEF, 2010:7). A longitudinal cohort study was performed to assess the effect of exclusive breastfeeding on the neurodevelopment of children over a seven-year follow-up period (Jedrychowski, Perera, Jankowski, Butscher, Mroz, Flak, Kaim, Lisowska-Miszczyk, Skarupa & Sowa, 2012:151). The findings confirm that exclusive breastfeeding in infancy enhances cognitive ability in children who were exclusively breastfed. The beneficial effect was observed after shorter periods of breastfeeding, thus increasing the duration of breastfeeding was accompanied by a gradual increase in the cognitive developmental score. Moreover, it was shown that the breastfeeding effect on children's intelligence quotient was consistent and stable over the entire follow-up period (Jedrychowski et al., 2012:155)**.**

2.4.3 The benefits of EBF to the nation

According to WHO (2016:6) EBF has economic and environmental benefits for the country and for the globe in general. The Lancet in their Breastfeeding group series indicated that breastfeeding could save 0.49% of the world's Global Domestic Product (Rollins, Bhandari, Hajeebhoy, Horton, Lutter, Martines, Piwoz, Richter, Victora & Group, 2016:491-504).

An article by Rollins et al. (2016:491-504) reported that breastfeeding can reduce child morbidity and mortality which economically translate into reduced costs of health care. The analysis by Rollins et al. (2016:491-504) further showed that Eastern and Southern Africa can save between 0·04%, $0·1 billion and West and Central Africa can save between 0·06%, $0·3 billion in health care costs associated with neurological development problems. Furthermore, health care costs can be decreased because of decreased hospital admissions due to fewer neonatal infections, medical consultations, laboratory tests and treatment prescriptions (WHO, 2009:45). EBF saves money as it is readily available and should mothers have to return to work, they can express their breastmilk and the expressed breastmilk can be given with a cup to the infant by a caregiver, hence, ensuring that the mother can still continue to practice EBF (WHO, 2009:73). Besides economic benefits, EBF is environmentally friendly because it reduces the production of formula milk bottles that contributes to environmental pollution (Jones, Kogan, Singh, Dee & Grummer-Strawn, 2011:1117).

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The health benefits associated with EBF for both the mother, the infant and the nation are described in the WHO guideline and are well documented in the literature. However, the WHO guideline does not provide sufficient information on how the benefits can promote exclusive breastfeeding amongst mothers. The next section focuses on the empirical literature regarding the factors that promote EBF.

2.5 Factors Promoting EBF

There are several factors regarded as important in promoting EBF, and these include sociodemographic, economic, knowledge, psychosocial and biophysical factors (Kimani-Murage, Wekesah, Wanjohi, Kyobutungi, Ezeh, Musoke, Norris, Madise & Griffiths, 2015:315) as well as socio-cultural factors (Kramer & Kakuma, 2012:3). This section is organized according to the conceptual framework of the study as presented in Chapter one.

2.5.1 Socio-demographic and economic factors

Socio-demographic factors relate to the characteristics of populations, which include the mother's age, level of education, marital status, geographical location, employment status, the age and gender of the infant as well as income status (Kimani-Murage et al., 2015:315).

2.5.1.1 Mother's age

Mother's age is associated with the initiation and the continuation of EBF (Kitano, Nomura, Kido, Murakami, Ohkubo, Ueno & Sugimoto, 2016:125). A study conducted by Indongo & Mutorwa (2017:164) in Namibia to assess factors associated with exclusive breastfeeding among infants aged 0-6 months indicated that mothers aged between twenty and thirty-four are more likely to practice EBF compared to mothers over forty. The study revealed that exclusive breastfeeding decreases with the age of the mother. There is evidence that teenage mothers are more likely to practice exclusive breastfeeding than older mothers as the ageing mothers do not have time to breastfeed due to several other responsibilities, while younger ones may not be as occupied with other responsibilities as the older mothers (Indongo & Mutorwa, 2017:164). Conversely Kimani-Murage et al. (2015:322) conducted a study in Kenya

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and found that young mothers were said to be extremely worried about their body image which influenced their breastfeeding practices.

The young mothers were also often still in school or had a busy social life, as they still had many friends and wanted to socialise with their friends The study revealed that the young mothers do not know how to attach the infant to the breast resulting in cracked nipples, breast engorgement and pain, which stops the mother from breastfeeding (Kimani-Murage et al., 2015:322). Furthermore, in developing countries, young mothers had limited knowledge about infant feeding, making them less likely to make informed choices on infant health (Kimani-Murage et al., 2015:322).

2.5.1.2 Educational level

Maternal educational status is one the factors that has been investigated in studies on factors affecting EBF (Indongo & Mutorwa 2017:163 and Alemayehu, Abreha, Yebyo, Zemichael & Gebremichael, 2014:394). In these studies, educational level refers to formal qualification obtained by entering primary school through to higher education. A study in Cameroon, which aimed at identifying the determinants of EBF, found that mothers with secondary level education or more were more likely to breastfeed compared to the mothers with primary level or no formal education (Tambe et al., 2018:1).

These findings are similar to a study conducted in Ethiopia to investigate EBF and its determinants, which indicated that educated mothers practice EBF more than their counterparts with low levels of formal education (Tariku, Alemu, Gizaw, Muchie, Derso, Abebe, Yitayal, Fekadu, Ayele, Alemayehu & Tsegaye, 2017:8). Conversely, Indongo and Mutorwa (2017:166) conducted a study in Namibia and reported that mothers with a high education level gradually switched to bottle-feeding or mixed feeding hence, they were more likely to stop EBF. It is therefore still unclear if a mother's level of education may influence their EBF practices.

2.5.1.3 Marital status

Marital status refers to the state of being married or not married. Studies have found that, the marital status of a mother determines her breastfeeding practices. Existing evidence suggest that married women are more likely to practice EBF than unmarried

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women. A study conducted in Namibia, indicated that married mothers, are more likely to practice exclusive breastfeeding than those not married (Indongo & Mutorwa, 2017:165).

A study done in Canada argued that married women or those in a stable relationship, practice EBF more frequently than those mothers who were not in a stable relationship, this could be attributed to partner support which has been found to promote breastfeeding (Mannion, Hobbs, McDonald & Tough, 2013:1). Agunbiade and Ogunleye (2012:5) in Southwest Nigeria also found that married women were more likely to breastfeed exclusively than those who were unmarried. The authors ascribed these findings to the support of fathers-in-law and mothers-in-law. However, a study from Ethiopia demonstrated no significant differences on EBF practices between married and unmarried mothers (Hunegnaw, Gezie & Teferra, 2017:4). The literature strongly reveals that married mothers' practice EBF more than unmarried mothers. However, these studies did not explore the stability of these marriages to support EBF, as not all marriages are stable.

2.5.1.4 Geographical location (urban vs rural areas)

The geographical locational refers to a place on earth, this can either be a city, a town, or a village. A study conducted in Niger found that EBF is more practiced among women in rural areas, who are generally of low socio-economic status, as compared to women in urban areas (Hitachi, Honda, Kaneko & Kamiya, 2019:3). Similarly, a study done in Namibia, found that mothers who live in rural areas are more likely to practice EBF than those who live urban areas (Indongo & Mutorwa, 2017:165). On the contrary, a study carried out in Ethiopia showed that urban mothers were more likely to initiate breastfeeding early in comparison to rural mothers (Mekonen, Seifu & Shiferaw, 2018:7).

The reasons for the differences in the results could be explained by the findings from a study in Niger, which showed that urban mothers are more likely to be better educated and have access to health facilities, therefore they are more likely to breastfeed (Hitachi et al., 2019:1). However, this study also highlighted that rural mothers may be forced to breastfeed due to low socio-economic status and cannot afford formula milk.

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A study conducted in Niger, however, did not find any differences in the breastfeeding practices of both rural and urban mothers (Senanayake, O'Connor & Ogbo, 2019:11). The evidence found is inconclusive on whether urban or rural women are more likely to practice EBF. Other factors may influence the likelihood of rural and urban women practicing EBF, such as, low socioeconomic conditions and education.

2.5.1.5 Employment status

The employment status of a mother has a role in determining whether a mother practices EBF. A study conducted in Namibia to assess factors associated with exclusive breastfeeding among infants from birth to six months indicated that the employment status of mothers influenced their decision to breastfeed (Indongo & Mutorwa, 2017:167). Employment was associated with early termination of breastfeeding, because employed mothers can be overloaded with work and some mothers work long hours. Employed mothers do not have special time allocated to breastfeeding and some mothers work out of town in non-conducive environments where breastfeeding is limited (Indongo & Mutorwa, 2017:167).

Indongo and Mutorwa (2017:167) further state that although employed mothers-initiated breastfeeding, the continuation rates for EBF was low, because the maternity leave was only three months in Namibia. The mothers were reported to resume work shortly after giving birth, therefore, mothers were less likely to practice EBF for six months, as they spent less time at home after giving birth.

A study done in Ethiopia reported that unemployed mothers were about five times more likely to breastfeed exclusively than employed mothers, as the unemployed mothers spent more time with their babies, which enabled them to breastfeed exclusively (Setegn, Belachew, Gerbaba, Deribe, Deribew & Biadgilign, 2012:4). The evidence from the above study, strongly suggests that unemployed mothers are more likely to practice EBF compared to employed mothers.

2.5.1.6 Infant age and gender

The patterns of EBF have been shown to vary depending on the age and the gender of the infant as discussed in the studies below. A study done in Namibia found that there was a decrease in EBF practice when an infant grew older. The highest EBF

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practice was experienced in the birth to one month of age category and the lowest EBF practice was in the six months of age category (Indongo & Mutorwa, 2017:161). Similarly, Adugna, Tadele, Reta and Berhan (2017:5) agreed that the practice of EBF declined when the infant was close to six months old, as the mothers assumed that breast milk alone could not satisfy the needs of their infants. EBF was practiced more among mothers with male infants compared to mothers who had female infants (Fombong, Olang, Antai, Osuorah, Poortvliet & Yngve, 2016:87). The evidence of the above study was supported by Hafeez and Quintana-Domeque review stating that a male child is preferred than a female child (Hafeez & Quintana-Domeque, 2018:179). Thus, when a girl is born, a girl will be weaned earlier than a boy as parents wanted to try again for a son (Fledderjohann, Agrawal, Vellakkal, Basu, Campbell, Doyle, Ebrahim & Stuckler, 2014:5-7). Contrary, a study conducted in sub-Saharan Africa by Yalçin, Berde and Yalçin, (2016:443) found that female infants had higher chances of being EBF as compared to male infants, as mothers had the perception that breast milk alone might not meet the higher nutritional needs of male infants.

A study conducted in Nigeria by Adugna et al. (2017:5) stated that full term infants were more likely to be exclusively breastfed compared to preterm infants as the majority of preterm had complications that needed to be addressed before EBF could be practiced. Further, low birth weight infants are less likely to be breastfed exclusively and a low birth weight may also be associated with the belief that a breast milk substitute is required to ensure infant weight gain (Adugna et al., 2017:5). A systematic review performed in Brazil, by Santiago, da Cunha, Viera, Moriera, de Oliveira, Lyra and Alves (2019:267) found that breastfeeding was a safe feeding practice for babies born before term.

2.5.1.7 Income status

Income status is a factor influencing mothers EBF practices and is interrelated with other factors such as employment status and education level. A study conducted in Ethiopia by Shifraw, Worku and Berhane (2015:4) found that mothers with a high income do not practice EBF. A review of the literature showed that mothers who are employed are away from their babies and they can afford infant formula to replace breastmilk (Shifraw et al., 2015:4). A study done in Zimbabwe by Muchacha and Mtetwa (2015:16) found that low socio-economic status promoted EBF, as infant

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formula is not affordable and rural mothers are not exposed to formula milk advertisements.The literature concludes that women with higher income are more likely not to practice EBF, as they are able to purchase infant formula.

2.5.2 Knowledge

Knowledge related to EBF refers to the information women obtain related to EBF from health care providers and other health education related sources regardless of their level of education. In Kenya, Kimani-Murage et al. (2015:315) argued that mothers with adequate EBF understanding are more likely to breastfeed exclusively compared to mothers with no EBF knowledge, because the information obtained dispels breastfeeding myths. The knowledge of EBF, increases EBF confidence and equips mothers with the essential skills to address EBF issues such as infant suckling difficulties and pain. The knowledge of EBF also help mothers to initiate and to continue with EBF (Kimani-Murage et al., 2015:315). A study done in Turkey, by Keloglan, Yilmaz and Gumus (2018:225) stated that having high levels of knowledge of EBF does not affect breastfeeding. However, there is a general trend of evidence indicating that high levels of EBF related knowledge is associated with high adherence to EBF.

2.5.3 Psychosocial and biophysical factors

Psychosocial factors refer to any exposure that may enable a physical health outcome through a social mechanism (Kimani-Murage et al., 2015:315). The Oxford Dictionary of Nursing (2008:56) defined biophysical as the subdivision of biology that applies the methods of physics to the assessment of biological structures and processes. Psychosocial factors such as attitude and self-efficacy towards breastfeeding are often attributed to antenatal intervention such as ANC counselling regarding EBF (Kimani-Murage et al., 2015:315-320). Biophysical factors include intrapartum experiences, early breastfeeding practices and perceived milk supply (Elad, Kozlovsk, Blum, Laine, Po, Botzer, Dollberg, Zelicovich & Sira, 2014:5230).

2.5.3.1 Attitudes

The attitudes of mothers towards breastfeeding strongly influence whether they will practice EBF. Mothers can think positively or negatively about breastfeeding based on

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several factors. A study done in Kenya by Mohamed, Ochola and Owino (2018:9) reported that mothers with positive attitudes are more likely to practice EBF than mothers with a negative attitude. Contrary a study conducted in Ghana reported that the mothers who did not EBF their babies even though they generally had positive attitudes towards EBF, still had some misconceptions and misunderstandings of issues around EBF (Mogre, Dery & Gaa, 2016:8).

The mothers misunderstood the crying of the child as signs of hunger, making them think that their breastmilk was inadequate to meet the nutritional needs of the child (Mogre et al., 2016:1). Therefore, more studies can help in better understanding what shapes women's attitudes towards breastfeeding as the current evidence is inconclusive.

2.5.3.2 Self-efficacy

Self-efficacy is a belief in one's ability to breastfeed exclusively (Tuthill, Miller, Collins, Widen, Onono & Young, 2020:6). A study conducted in the Democratic Republic of the Congo to identify predictors of discontinuing EBF before six months among mothers by Babakazo et al. (2015:7) revealed that self-efficacy can be influenced by personal experience, verbal persuasion from health care professionals, family and friends and the mother's self-confidence that they can perform the skill of breastfeeding.

Mothers with higher self-efficacy may be more responsive to EBF, have more self-confidence about the adequacy of their milk supply, and eventually can maintain EBF (Babakazo et al., 2015:8). However, a systematic review on interventions to promote self-efficacy suggested that it is not clear what interventions are effective to improve mothers' self-efficacy (Galipeau, Baillot, Trottier & Lemire, 2018:11). However, literature on self-efficacy does not clearly explain what it is and what factors influence it among breastfeeding mothers.

2.5.3.3 Intrapartum experiences

Intrapartum experiences refer to the activities that a woman encounters from the onset of labour, the delivery and includes the delivery of the placenta (WHO, 2018:3-7). Women can deliver at hospital or at home. The intrapartum experiences are different

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for mothers who give birth in the hospital as they are informed about the benefits and the management of breastfeeding (Fombong et al., 2016:87).

In the hospital, mothers are likely to be helped by health care workers to initiate EBF immediately after birth. A study performed in Ghana showed that the health education and support systems for the mothers to breastfeed were weak and were not implemented as expected (Intiful, Osei, Steele-Dadzie, Nyarko & Asante, 2017:4). Health care workers were not giving support to mothers as was anticipated and information on the benefits of breastfeeding was minimal and this affected the early initiation of EBF among mothers (Intiful et al., 2017:4).

A study conducted in Ethiopia by Shifraw et al. (2015:4) to determine the prevalence of EBF for infants under six months and the potential factors associated with the practice or the duration of EBF among women, indicated that mothers who delivered vaginally were more likely to practice EBF than those who delivered by caesarean section. The mothers who delivered by caesarean could not initiate EBF due to the pain that the mother experienced, and this delayed practicing EBF and starting formula feeding (Shifraw et al., 2015:4). Therefore, adequate pain management may be a factor to promote EBF. The study done in Ethiopia by Shiferaw, Mossa and Gashaw (2017:7) also showed that mothers delivering at a health facility were more likely to initiate and exclusively breastfeed than those delivering at home. The reason was that mothers at facilities received direct counselling and encouragement from health care workers who promoted a positive environment for the early initiation of breastfeeding (Shiferaw et al., 2017:1).

Breastfeeding support is assumed to be better provided to mothers who deliver at the health care facilities than at home. The evidence also reveals that having a normal delivery is a strong predictor of EBF practices.

2.5.3.4 Previous experiences of breastfeeding

The literature has shown that the previous experiences of mothers who have practiced breastfeeding before, determines the mothers' subsequent breastfeeding practices. In a study done in the Democratic Republic of Congo on predictors of breastfeeding, previous breastfeeding was found to increase the mothers' confidence in the ability to breastfeed again (Babakazo et al., 2015:4). Mothers with little or no previous

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breastfeeding experience required additional support to be able to practice breastfeeding for six months (Babakazo et al., 2015:5). Furthermore, a South African systematic review performed of studies from 1980 to 2018 on breastfeeding, stated that mothers with negative previous breastfeeding experiences such as pain and a lack of sleep were less likely to breastfeed exclusively (Nieuwoudt et al., 2019:14). Evidence strongly suggests that negative experiences of breastfeeding influence the subsequent EBF practice of mothers.

2.5.4 Socio-cultural Factors

Socio-cultural factors refer to the human aspects, the way people live, interact with others and their beliefs (Wang, Bruce & Hughes, 2011:299). The socio-cultural factors to be discussed include, societal norms, family and partner support, health care worker support and cultural beliefs.

2.5.4.1 Societal norms

Societal norms are common acceptable ways of living in a particular society and such norms differ from society to society (Reinsma, Bolima, Fonteh, Okwen, Yota & Montgomery, 2012:8). These norms have been found to influence EBF practices among women. In a study done in Kenya mothers expressed that breastmilk was a generally acceptable health food for the baby and promotes intelligence (Wanjohi et al., 2016:4). This concurs with a study done in Cameroon, where women regarded breastmilk as the best natural food for an infant as it had a positive effect on the infant's health, growth and intellect (Dapi, Tambe, Axberg, Lundström & Hörnell, 2018:41). On the contrary, a study carried out in Tanzania showed that infant crying was seen as a sign that the infant was not satisfied with breast milk alone, hence the mothers started giving the babies extra food (Mgongo, Hussein, Stray-Pedersen, Vangen, Msuya & Wandel, 2018:5). Societal norms differ, therefore it is difficult to specify how the norms are likely to influence EBF, although it is clear that they play a role in the choice to practice EBF or not.

2.5.4.2 Family and partner support

Family and partner support may positively influence EBF, this is illustrated by a study of EBF in Africa, that found that mothers who receive strong social support from family,

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friends and health care professionals are more likely to EBF (Bhattacharjee et al., 2019:6). A study in South Africa revealed that family pressure influences a mother to EBF (Jama et al., 2017:9). Family pressure contributed to the challenges that mothers foresee that could hinder the ability to exclusively breastfeed. Some of these challenges are fuelled by perceptions and myths about breastfeeding and most maternal mothers, are significant in influencing the feeding practices of the new-born baby. Some of the mothers experienced a lack of partner support and this poses a barrier to optimal breastfeeding practices (Kimani-Murage et al., 2017:323). However, a study in South Africa showed that family interfered with the mothers' intention to exclusively breastfeed their infants, especially in the case of the maternal mother on deciding what to feed the new-born baby (Mphego, Madiba & Ntuli, 2014:289). In all the studies it clearly shows that family and partner support influence the practice of EBF by the mother.

2.5.4.3 Cultural factors

Kramer and Kakuma (2012:3) define cultural factors as a set of beliefs, traditions, and moral values held in common by a group of people, with breastfeeding viewed differently by various cultures. Cultural beliefs identified in most developing African communities include the mother's views of having insufficient breast milk, that breast milk is regarded to be nutritionally inadequate and colostrum that is regarded as being immature, 'dirty' milk, that is sour and difficult to digest and is compared to pus (Kimani-Murage et al., 2017:324). Mothers also believe that breastmilk alone is only nutritional for four months and that colostrum is not good for infants as it is considered to cause diseases such as leprosy or eye disease (Kimani-Murage et al., 2017:324). Kimani-Murage et al. (2017:325) found that other myths about breastfeeding in public, was that an individual with an 'evil eye' may look at the breast and this may cause the breasts to have sores, thereby making it difficult to breastfeed in public. A study in Kenya agrees with what Kimani-Murage et al. (2017:325) stated that colostrum is discarded as it is believed to cause stomach pain, diarrhoea, worms and even the death of the baby (Rogers, Abdi, Moore, Nd'iangui, Smith, Carlson & Carlson 2011:2033).

Some cultures in Tanzania believe that sexual intercourse during breastfeeding will result in a phenomenon in which a child has poor growth, slow development and ill

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health, and consequemtly both parents should preserve total abstinence from sex (Mbekenga, Pembe, Darj, Christensson & Olsson, 2013:4). Therefore, any failure to abstain from sexual intercourse during breastfeeding, has been found to result in a mother's cessation of breastfeeding.

On the contrary, some cultures in Cameroon have been found to dominantly continue breastfeeding up to one-year (Dapi et al., 2018:40). The study findings suggest that cultural factors have both a positive and a negative influence on the practice of EBF.

2.5.4.4 Health care worker support

Support from health care professionals on EBF may enhance the intention and the duration of breastfeeding. A study conducted in South Africa to explore enablers or barriers to success among mothers who planned to exclusively breastfeed their infants for the first six months of life, discovered that the support and the counselling by health care workers proved to be important in encouraging mothers to practice EBF (Jama et al., 2017:12).

Another study done in South Africa specifically suggested that sensitive and personalized information and addressing a women's concerns can help mothers to exclusively breastfeed (Adeniyi, Ajayi, Issah, Owolabi, Ter Goon, Avramovic & Lambert, 2019:4).

A study performed in Nigeria by Ella, Ndep and Akpan (2016:101) agrees with the South African study, that home visits by health care worker in the first six weeks following a birth may prolong the duration of EBF and enhance confidence, as it assists mothers to overcome obstacles to breastfeeding. The Namibia health care system programme includes home visits to help mothers to build their confidence in breastfeeding. However, Kimani-Murage et al. (2017:324) found that most health care professionals are frequently too busy to offer breastfeeding counselling to mothers.

The literature concludes that mothers who receive strong support from health care workers for EBF, showed a positive association with EBF. It is thus imperative that health care workers provide mothers with information and support mothers to practice EBF. Health care workers also need to empower the partners of women and the community on the benefits of EBF.

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2.6 Summary

This chapter has reviewed literature related to this study topic. The literature has specifically focused on the background of EBF, with reference to The Ten Steps to Successful Breastfeeding implementation as well as the discussion on the EBF guidelines globally and in Namibia. The literature review further include a discussion on the benefits of EBF for the infant, for the mother and for the nation. Several factors regarded as important for EBF promotion as well as measures that can be adopted to promote EBF have been described. These factors include socio-demographic, economic, knowledge, psychosocial and biophysical. It has also become evident that support from partners, family and health care workers is significant in the practice of EBF. In Chapter Three, the methodology that guided this research study will be discussed.

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CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

In Chapter One, the background of the study, the rationale of the study, the problem statement, the research question, the aim of the study and the research objectives was discussed. The definitions as well as layout of the study was listed in Chapter one. The preceding chapter focused on the literature review and the variables of the conceptual framework. A brief discussion of the research methodology was provided in Chapter one. This chapter provides a detailed discussion of the research methodology of this study.

Gupta and Gupta (2016:11) state that the research methodology is a way to systematically solve a research problem. The purpose of this chapter is to describe in detail the research methodology that was used to explore the factors that promote exclusive breastfeeding amongst mothers at a hospital in Windhoek, Namibia. It includes a comprehensive explanation of the research design, target population, sampling technique, sampling size and procedures for data collection and data analysis. The ethical issues were discussed in detail in Chapter one and in this chapter, the application of the ethical principles is incorporated in the data collection section. In addition, the COVID-19 risk mitigation procedures that the researcher adopted is explained.

3.2 Study Setting

The study was conducted at the Katutura Health Centre (KHC) in Windhoek, Namibia, in the postnatal department and the immunization department. This centre is located in the Katutura district of Windhoek and is a referral public health facility, which operates 24 hours a day. The care provided at the centre includes, assessment of adults and children, immunization, growth monitoring and follow-up treatments, female sexual reproductive health services and stabilization of emergency cases. The mother and child services provided at KHC includes clinical examination of the mother and the baby during the postnatal period. KHC receives referrals from outreach community

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programmes and clinics within Windhoek and refer more critical cases and emergencies to Katutura State Hospital.

Namibia has four levels of health care in the public health system, which include: 1) Outreach level and Health Centres, 2) District Hospitals, 3) Intermediate Hospitals and 4) the National Referral Hospital. Care within the outreach level or community care level focuses on identifying health needs in the community and includes home based health care services such as managing minor trauma, performing testing (including voluntary counselling and testing for HIV) and follow-up treatment for chronic diseases. Care provided during outreach care level includes antenatal care, health education by raising public awareness on health issues, encouragement, support and advocacy of activities and services that provide current health information, referral of routine immunizations and the diagnosis and treatment of routine communicable diseases. If a patient cannot be treated by the outreach care level, they can be referred to the nearest public health facility.

Health centres such as Katutura Health Centre, are the first level of health institutions. The care within this level focuses on preventative, promotive, rehabilitative and basic curative care. Physicians diagnose, provide treatment, and follow-up care for specific diseases or health problems. The role of nurses at a health centre includes focusing on preventative, promotive, rehabilitative and basic curative care. If a patient cannot be treated at the health centre, they can be referred to the nearest district or intermediate hospital.

There are ten health centres in Windhoek, including the KHC. The KHC provides health care services to a catchment population of approximately 120 594 people (NDHS, 2018:18). The care at KHC is provided by qualified staff within the multidisciplinary teams which includes, obstetricians and gynaecologists, midwives, nurses, dentists, physicians, social workers, psychiatrists, dieticians and pharmacists. The KHC centre employs twenty midwives. The services provided by the midwives is female sexual reproductive healthcare that includes gynaecological examinations, contraception, the promotion of good nutrition, and the promotion of exercise and menopausal management. The midwives also provide maternal, newborn and infant care including, preconception care, prenatal care, labour and delivery support, the promotion of breastfeeding and routine newborn and infant care.

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3.3 Research Design

Grove et al. (2015:211) note that a research design is a blueprint for empirical research aimed at answering specific research questions or testing specific hypotheses must specify the data collection process, the instrument development process, and the sampling process. A quantitative approach with a cross-sectional, comparative descriptive design was selected by the researcher to describe the factors that promote EBF in Namibia. Furthermore, the approach selected utilized larger sample sizes, numerical data and statistical analyses (Fitzpatrick & Kazer, 2012:413).

A comparative descriptive design was used to describe variables and examined differences in variables in two or more groups that occur naturally in a setting, further this design compares descriptive data obtained from different groups using variables such as gender, age, education level and medical diagnoses (Grove et al.,2015:216). The researcher sought to describe the phenomenon at a particular point making the study descriptive and cross sectional in nature (Grove et al., 2015:212). Grove et al. 2015:212 stated that a descriptive design can be used to develop a theory, identify problems within current practice, justify current practice and analyse what others are doing in related situations. The study is contextual in nature as only one public health care centre was included in the research investigation. The researcher used a comparative descriptive design according to Brink et al. (2017:114) as this design describes variables as well as the differences between or among two or more groups to see whether there are differences in the variables. In this study the researcher sought to compare participants who practice EBF versus those who do not practice EBF to identify the factors that may promote EBF. The factors that influence breastfeeding were examined across the two groups of breastfeeding.

3.4 Population and Sampling

A population is the total number of persons with whom the research question is concerned (Brink et al., 2017:131). The study population is the population to whom the results will be applicable and the population from which the sample was selected (Grove et al., 2015:46; Brink et al., 2017:131). In this study, the population were all postnatal mothers who attended the services at the postnatal and immunization

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departments at KHC within the three-month study period. The average monthly number of mothers who attend postnatal care at KHC is 200 per month.

Sampling refers to the method of choosing participants who are representative of the population being studied (Grove et al., 2015:37). A consecutive sampling method was used in this study. This method was chosen because it was not possible to randomly sample participants, as no sampling frame was available. Representativeness was increased by sampling over a three-month period until the required number of participants was reached. The fieldwork was done on a Monday and a Friday for a three-month period. All mothers visiting the postnatal department and the immunization department on the specific days, whether they were practicing EBF or not, were included in the sample.

Over the three-months of sampling, 270 mothers were recruited. A biostatistician at the Biostatistics Unit at Stellenbosch University assisted to estimate the power of the planned study to test for the association of a single factor with EBF.

Knowledge of breastfeeding was considered an important factor and considered the question: *Breastmilk provides all the nutrients a child needs in the first six months (true / false)* we expected that 40% of the participants would consider this a true statement. The test for association is equivalent to testing for a significant difference in EBF proportions between the two groups based on this knowledge question. The WHO estimate of EBF for Namibia is 19% and hence the proportions compared are linked to this. The significance level proposed was 5% and it was assumed that the EBF proportions were 14% in the FALSE group versus 28 % in the TRUE group. The estimated sample size that was required for a power of 80% was 264. The sample size calculations are given in Table 3.1 below.

Table 3.1 Estimated sample sizes for a two-sample proportions tests using the Pearson's chi-squared test for the hypothesis: p2 = p1 versus Ha: p2 = p1

Alpha	Power	N	N1	N2	Delta	p1	p2
0.05	0.8	264	132	132	0.14	0.14	0.28
0.05	0.9	352	176	176	0.14	0.14	0.28

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N the total sample size, N1 and N2 the sample size for participants who believe that the knowledge statement is true or false, delta is the difference between the EBF proportions p1 and p2 specified.

Given the sample size needed from Table 3.1 a sample size of 264 women had at least 80% power to detect a 14% difference in EBF between the knowledge groups. The actual sample was 270, which was more than the 264 required. In this study, 270 women were recruited to account for any attrition/incomplete questionnaires. All women who participated in the study, completed the questionnaires and none of the mothers refused to participate or withdrew from the study.

3.4.1 Inclusion and exclusion criteria

The criteria for eligibility for this study included:

Mothers aged 18 years or older, with infants aged between 0-6 months who presented at the KHC post-natal and immunization departments. In this study, adolescent mothers under the age of 18 were excluded since these mothers may have unique factors contributing to their EBF practices.

3.5 Instrumentation

An instrument is a measurement tool used to collect data such as a questionnaire or an interview guide (Brink et al., 2017:154). The questionnaire was adapted from the questionnaires developed by Maonga et al. (2016:87) and Rahman, Dewi, Fitrasyah and Rifai (2017:185).

The literature review and the conceptual framework for the study further informed the questionnaire. Two breastfeeding experts who were experienced advanced midwives, as well as two midwifery academics with master's degrees reviewed the questionnaire. The instrument (Appendix 1) consisted of four sections, namely:

- **Section 1 - Socio-demographic factors and economic factors**

This section consisted of subsections 1A and 1B. Subsection 1A consisted of seven personal and infant background questions and subsection 1B included family income status questions. These questions were mainly at a nominal scale of measurement, categorising responses into different classes.

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- **Section 2 - Knowledge of EBF**

This section consisted of twelve true or false questions assessing mothers' understanding on several aspects of EBF. Individual knowledge questions were measured on a binary scale, namely, true or false. A total knowledge score out of twelve was calculated by summing the correct or the incorrect responses. The ratio scale of measurement was applied as the researcher sought to determine the number or the percentage of correct answers.

- **Section 3 - Psychosocial and biophysical questions**

This section consisted of subsection 3A to 3C regarding psychosocial and biophysical factors that sought to determine the mothers' intrapartum experience, feelings towards EBF as well as their confidence to practise EBF. Subsection 3A included thirteen questions on biophysical factors and subsection 3B included four questions on previous breastfeeding experience. Subsection 3C, a Likert scale measurement, included eighteen questions on the mothers' attitude towards EBF. The responses to the attitude scale were summed up to create an attitude score, following recoding of the negatively phrased items.

The history of EBF for the postnatal period at hand was recorded on the questionnaire under subsection 3B since this is a cross-sectional study. The current date and the date of birth of the infant was recorded and for how long the mother EBF the current infant. These two variables were used to create a new binary variable, namely, whether the mother practiced EBF or not. All variables in this section were measured at an ordinal level not just the ones in section 4 below.

- **Section 4 - Socio-cultural questions**

This section consisted of subsections 4A to 4B on socio-cultural factors. Subsection 4A had seven questions on health care workers, family and partner support and subsection 4B had seven questions on cultural beliefs, measured on a binary (yes/no) scale and one open-ended question no eight.

The instrument was presented as a self-administered questionnaire designed in English and translated into Oshiwambo. Forward and backward translation were used

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Annexure 8. The researcher made use of professional translators who are also native Oshiwambo speakers to translate the questionnaire (Annexure 6). The translated questionnaire versions were pretested in a pilot study.

3.6 Pilot Study

According to Brink et al. (2018:161) a pilot study refers to a smaller version of a proposed study, which is conducted for the purpose of testing and validating the questionnaire and evaluating data collection procedures. The instrument was tested with a sample of thirty mothers in Windhoek Central Hospital, twenty-five questionnaires were completed in English and five in Oshiwambo. Permission was obtained to conduct a pilot study at Windhoek Central hospital during March 2020. The data obtained was captured, processed and analysed to determine whether the questionnaire was understood, and that the relevant changes were made to the questionnaire before the main data collection was executed. The researcher checked if the participants understood the questions as well as the translated version of the questionnaire. The readability was improved by removing ambiguous words and replacing medical terms with terms that could be easily understood, to ensure that the participants could complete the questionnaire by themselves.

Specific changes following the pilot test included changing medical terms to laymans terms such as section 2, questions 9, 10, 11. Colostrum was changed to first milk; contraception to family planning; and vulnerable to exposed. In section 3A, question 5, caesarean section was changed to operation; section 3C, question 1, convenient was changed to suitable, question 4, sag was changed to flabby and in question 15, digested was changed to absorbed and the annotation before was strongly agree 1, agree 2, disagree 3 and strongly disagree 4 and was changed to strongly agree 4, agree 3, disagree 2 and strongly disagree 1. No changes were made on the translated versions because the participants understood their native language.

The feasibility of the study was assessed, and it was determined that the best time to approach the participants was in the morning when they were waiting to be called in for the postnatal care. It took the participants ten to twenty-five minutes to complete the questionnaire. Privacy was ensured, as the mothers completed the questionnaire in a private counselling room at KHC.

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Data from the pilot study was entered into Excel and imported into the Statistical Package of the Social Sciences (SPSS, version 26). Preliminary data analysis was performed, for example, determining the reliability of the attitudes scale. After recoding the negatively phrased items, the Cronbach alpha of the attitude scale was 0.6 for the eighteen items (n = 30). The pilot study data was not included in the main study.

3.7 Validity and Reliability

3.7.1 Validity

According to Brink et al. (2018:151) validity can be defined as the degree to which any measuring tool measures what it is proposed to measure. To ensure validity, the questionnaire was based on the literature related to factors promoting EBF among mothers. Content validity examines the extent to which the measurement methods or the scale included all the major elements or items relevant to the constructs being measured (Brink et al., 2018:152). The factors included in the questionnaire were based on existing questionnaires, the conceptual framework of the study and the literature. Two KHC post-natal experts with a qualification in advanced midwifery and two academics with master's degrees in midwifery reviewed the content and the cultural appropriateness of the questionnaire and determined its relevance, clarity, simplicity and ambiguity.

The pilot study was done on a sample of 10%, which was thirty participants, to determine the readability level. Readability must be suitable to promote the reliability and validity of the tool.

The participants' feedback was incorporated into the questionnaire to improve readability, and consequently this improved validity as the respondents were able to answer what was required by the questionnaire. Face validity is when an assessment or a test appears to do what it claims to do (Grove et al., 2015:289). Face validity was done by having the questionnaire reviewed by experts.

3.7.2 Reliability

Brink et al., (2018:155) defined reliability as the consistency of an instrument to measure a variable. If measuring the instrument is reliable, the researcher can deduce

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that it will yield the same results in different situations under similar conditions through the magnitude of a smaller study.

During the pilot study, thirty participants were asked to complete the questionnaire and the tool was found to be suitable for the purpose of the study.

In addition, Cronbach alpha was calculated for the Likert scale items measuring the same concept, for example, attitudes. The Cronbach alpha for the attitudes scale in the main study was 0.6 for the eighteen items (n = 270).

After using a stepwise approach to remove items from the scale that lowered the reliability of the scale, the final Cronbach alpha of the scale was 0.72 for eleven items (n = 270).

In general, a Cronbach alpha score of at least 0.7 is acceptable in research instruments (Taber, 2018:1287). The other items in the questionnaire were not suitable for reliability analyses.

Table 3.2 Reliability analysis of attitudes scale

Item-Total Statistics				
	Scale Means if Item Deleted	**Scale Variance if Item Deleted**	**Corrected Item-Total Correlation**	**Cronbach's Alpha if Item Deleted**
V40: Breast milk is more convenient (suitable) than formula milk.	33.54	18.896	.407	.699
V45: As a mother I will make every effort to breastfeed exclusively.	33.73	17.587	.509	.682
V48: At the age of 0-6 months, mothers should breastfeed babies on demand.	33.89	17.965	.337	.707
V51: Breastfeeding can strengthen the bond between mother and baby.	33.65	17.834	.501	.684
V53: A mother should give colostrum (first milk) to her baby from the first day until the fourth day.	33.87	18.495	.257	.721

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V56: A mother should wash her hands first with soap as well as cleaning her breast with warm water before feeding her baby.	33.69	18.298	.420	.695
V41 recoded: Exclusively breastfeeding will cause breast cancer.	33.62	19.195	.390	.702
V44 recoded: I would feel embarrassed if someone were to see me breastfeeding in public.	34.03	17.765	.334	.709
V46 recoded: Breastfeeding is old fashioned, and it makes me tired.	33.57	18.060	.513	.685
V47 recoded: The lack of public facilities for breastfeeding makes it difficult for me to breastfeed exclusively.	34.10	18.354	.270	.719
V54 recoded: Formula milk is more easily digested (absorbed) and has more complete nutritional contents than breast milk.	34.09	18.034	.289	.717

3.8 Data Collection

Data collection refers to the identification of subjects and precise collecting of information relevant to the questions of the proposed study (Grove et al., 2015:82). The main languages in the geographical area are English and Oshiwambo. The researcher is fluent in English and in Oshiwambo and all the questionnaires were completed in these mentioned languages. Data was collected at KHC using a structured self-administered questionnaire form April 2020 to June 2020. The researcher is not employed at this facility and therefore is not known to the participants.

Mothers were approached on a Mondays and a Fridays at KHC at the immunization and post-natal department while they were waiting to be called in for the service. The researcher reported to the KHC matron as well as the operational manager or the in-charge nurse, allocated to the specific department before approaching the mothers. The researcher wore casual clothes, to avoid the participants feeling intimidated or coerced into participating in the study. Information about the study was provided in the waiting room and then arranged a time with the mothers to complete the questionnaire

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either while they waited for their appointments or after their appointments. The researcher obtained written informed consent from the participants in a private counselling room at KHC. The mothers who provided written informed consent, were requested to complete the self-administered questionnaire in the private counselling room at KHC. Before handing out the questionnaire, mothers were protected from any harm by informing them that they could withdraw from completing the questionnaire at any time of answering. Mothers were also well-informed that should they withdraw, the information that they provided would not be utilised in the study.

Confidentiality was ensured by allocating numbers to all the questionnaires such as 1-270 and not their names, so that no responses could be linked to a specific participant. It took approximately ten to twenty-five minutes for the participants to complete the questionnaire. Some mothers required clarification of the questions while completing the questionnaire. Due to COVID-19, Namibia had been on lockdown for several months and strict measures were implemented on movement. On the 27th of March 2020 at 23:59, the country went into a full lockdown that lasted until 17th April 2020, however, local movement was allowed. No infections were reported from 6 April 2020 to 20 May 2020.

In July 2020, an increase in local transmission began and the country went into full lockdown. At that time no movement from town to town was allowed. The researcher was allowed to continue with the data collection by the facility management provided that the researcher adhered to the COVID-19 rules as set out. The following rules were adhered to the temperature of the researcher was taken, travel history and symptom screening was done upon arrival, hand hygiene was performed on facility entry and appropriate personal protective equipment was worn at all times, especially a mask over the nose and the mouth.

Despite the lockdown, mothers were allowed to bring their babies for scheduled immunization and post-natal follow up care. The wearing of a surgical mask was compulsory and if a mother did not own one, medical masks were provided to everyone entering the health centre. Hand hygiene was performed upon facility entry and frequently after every procedure using an alcohol-based hand rub. Social distancing was maintained by keeping at least one metre between the researcher and the participants while waiting in the open waiting area as well as during the information

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session and while completing the questionnaire in the private room. Mothers were discouraged from touching their mouth, eyes and nose as well as touching the masks. A COVID-19 register was kept of all the mothers. None of the mothers reported symptoms of infection, and mothers where informed to report to the health facility should they experience COVID-19 symptoms. A refreshment of a cooldrink 330ml costing R8 was provided to all participants.

Completed questionnaires and consent forms are being kept in a locked safe-cabinet at the researcher's office and will be kept for a period of at least five years. Anonymous data will only be accessible to the researcher, the statistician and the supervisors and the electronic data will be password protected.

3.9 Data Analysis

Grove et al. (2015:47) referred to data analysis as a method used to reduce, organize and give significance to data. A template in SPSS version 26 was created and then sent to the supervisor to check, whereafter the data was cleaned. The file was then sent to the supervisor who assisted with the recoding of negatively phrased items. The SPSS file was sent to the biostatistician who assisted with the statistical analyses.

The STATA version 16 was used to analyse data with the assistance of a biostatistician. Descriptive statistics was used to describe the demographics characteristics of the participants the variables and the inferential statistics used to explore associations between the factors and EBF practices.

3.9.1 Descriptive statistics

Descriptive statistics are statistics that permit the researcher to combine the data in ways that give meaning and simplify insight, such as frequency distributions and measures of central tendency and dispersion (Grove et al., 2015:319). The dependent variable in this study was EBF which is dichotomous, meaning that responses were categorised as either practicing EBF or not practicing EBF. In applying the descriptive statistics, the respondents were grouped into the EBF group and the non-EBF group and their descriptive characteristics were compared. For all the independent variables at nominal and ordinal levels, the frequencies and the percentages were computed and presented in a table showing a comparison between the EBF and the non-EBF

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group. For continuous variables such as the knowledge score and the attitude score, the means and standard deviations were computed.

3.9.2 Inferential statistics

Inferential statistics refer to a group of statistics designed to address objectives, questions and hypotheses in a study, to make an inference about the target population (Brink et al., 2017:179). In this study, logistic regression was applied to determine factors that predicted EBF among mothers. Logistic regression is used to describe and explain the relationship between a dichotomous dependent variable and one or more independent variables at any of the levels of measurements (Sperandei, 2014:12). Logistic regression allows the researcher to assess how well a predictor variable explains the categorical dependent variable by assessing the 'goodness of fit' (Pallant, 2016:172). To apply logistic regression, the following aspects were tested in the data; the variable EBF was measured on a dichotomous scale, the dependent variables were at different levels of measurement, the respondents were either providing EBF or not providing EBF but not both or neither.

Logistic regression was computed by importing the data into STATA version 16 and then running a logistic regression that provided an output table requiring researcher interpretation. The key test figures in the output table are the odds ratio, the p value and the confidence intervals. The level of significance was set at 0.05. If the p value is less than 0.05, then the variable(s) significantly predict the likelihood of an event happening. The odds ratio measures the likelihood of an event occurring given certain exposure. For example, an odds ratio of EBF which is in practice among rural and urban mothers. An odds ratio of 1 means there is no association between the place where a mother lives and the practice of EBF. The odds ratio greater than 1 means that there is greater strength of association i.e., the exposure and the outcome are positively correlated. Confidence intervals are used to support the statistical significance and are interpreted as significant if the upper and lower limits do not include one (Szumilas, 2010:227). Therefore, in this study predictors of EBF were those variables showing a statistically significant result based on the logistic regression output table.

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3.9.3 The analysis of the open-ended question

One open-ended question was included in the questionnaire on what the participants thought could promote exclusive breastfeeding among women. This generated qualitative data, which was analysed thematically by following the six steps of Braun and Clarke (2006) to generate themes (Braun & Clarke 2006:77-101).

Step 1: Familiarizing the data

The researcher read all the 270 responses written by the women on what they thought could promote exclusive breastfeeding. Initial ideas that emerged were noted down for example, aspects of health education, and provision of support to the women.

Step 2: Generating initial codes

During this step, the researcher started to capture codes based on ideas that related to what women said could promote exclusive breastfeeding. Most of the responses were either two words or one sentence. For example, one would write “health education” or “health education could improve the practice of exclusive breastfeeding”. None of the respondents explained the reasons why they thought that their suggestions could improve exclusive breastfeeding. Therefore, in the coding process the initial codes included codes such as, health education, peer support, health care support, employers support etc.

Step 3. Searching for themes

After generating codes, the researcher relooked at the codes and read them focusing on identifying some common patterns or categories or sub-themes focusing on a certain common way of supporting the practice of exclusive breastfeeding. From the data, main themes such as health care system factors, employee related factors and health education began to emerge.

Step 4: Reviewing themes

The researcher reviewed the themes and compared it again to the codes to confirm that the themes were related to the codes and that the codes exclusively belonged to a particular theme. In addition, the researcher checked if the themes were responding

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to the research question, on factors promoting exclusive breastfeeding among mothers.

Step 5: Defining and naming themes

The identified themes were named and defined in a manner that reflected the ideas of women on what can be done to promote exclusive breastfeeding. The names of themes are provided in Chapter four, section 4.10.

Step 6. Producing the report

The researcher organised the themes from the data that illustrated each theme. Since this was primarily a quantitative study, the researcher quantified the themes in terms of how many of the participants mentioned or agreed with the theme.

3.10 Summary

In this chapter, the researcher has provided a full description of the research methodology applied, which comprised a description of the aim and the objectives of the study, the research question, the study setting and the sample. Moreover, a description of the instrument utilised for the study, the data collection and the data analysis were discussed. Ethical guidelines and principles enshrined in the International Declaration of Helsinki, (The Declaration of Helsinki, 2013:2145-2146) was demonstrated and COVID-19 risk mitigation strategies were detailed. In Chapter Four, the results of the data analysis are discussed.

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CHAPTER FOUR

RESULTS

4.1 Introduction

In this chapter, the results of the study that aimed to determine the factors influencing mothers' practices when breastfeeding exclusively at a health centre in Namibia are presented. The results are presented according to the research objectives. The chapter starts with a description of the demographic data characterising the participants (Section A of the questionnaire). The chapter then presents findings from the socio-demographic and economic factors, followed by the results from questions related to knowledge, psychosocial and biophysical factors, attitudes and lastly, socio-cultural factors. Percentages are rounded to the first decimal place throughout, and the odds ratios and p-values are presented, to indicate the association between the factors and exclusive breastfeeding.

4.2 Prevalence of EBF

The prevalence of EBF among the mothers was first determined, to allow for the answering of the research questions. In the questionnaire, participants were asked to indicate the age of their babies (section 1A question number six) and how long they exclusively breastfed their baby (section 3A question number nine). This information was used to determine the number and the percentage of mothers who were practising EBF at the time of the study (see Table 4.1 and Table 4.2).

Table 4.1 Cross tabulation of the age of the baby in months and showing how long the mother breastfed exclusively.

	How long have you been exclusively breastfeeding this baby?				
Age of the baby in months	**Less than 2 months**	**At least 2 months but less than 4 months**	**At least 4 months but less than 6 months**	**At least 6 months**	**Total**
1	53	0	0	0	53
2	7	37	0	0	44
3	1	63	2	0	66
4	0	1	21	0	22
5	0	1	11	0	12
6	4	3	16	50	73
Total	**65**	**105**	**50**	**50**	**270**

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The results as shown in Table 4.2 revealed that the overall prevalence of the EBF was 87.8% (n=237) among the mothers with babies less than six months old. The EBF rates for different ages of the babies did not show any systematic pattern, with mothers with babies three months old having the highest EBF prevalence (98.5%, n=65) and the lowest prevalence was among mothers with babies six months old (68.5%, n=50) (See Table 4.2).

Table 4.2 Breastfeeding prevalence

Age of the baby in months	EBF (No) n (%)	EBF (Yes) n (%)	Total n (%)
1	0 (0)	53 (100)	53 (100)
2	7 (15.9)	37 (84.1)	44 (100)
3	1 (1.5)	65 (98.5)	66 (100)
4	1 (4.5)	21 (95.5)	22 (100)
5	1 (8.3)	11 (91.7)	12 (100)
6	23 (31.5)	50 (68.5)	73 (100)
Total	**33 (12.2%)**	**237 (87.8)**	**270 (100)**

4.3 Socio-demographic Factors

The socio-demographical data defines the sample characteristics, which gives an indication of the target population for the generalisation of the results. The possible association between socio-demographic factors and EBF was determined.

The socio-demographic information of the participants, as presented in Table 4.3, includes the age of the mother, the highest level of education, geographical location, marital status, employment status, the gender of the baby and the average family income per month. The table also presents the percentages and the frequencies of responses according to whether the participant was EBF or not. The odds ratio, p-value and confidence interval of the regression analysis between the independent socio-demographic variable and EBF are also presented. Each of the variables will be discussed in more detail in the sections below. In the table, column percentages for EBF ‘yes’ or ‘no’ have been used. The reason why V3 was omitted was because of collinearity.

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Table 4.3 Socio-demographic data

Variables: (n, %)	EBF - Yes Mean (SD)	EBF - No Mean (SD)	Odds ratio (OR)	P value	95% Confidence Interval	
Age (n=270)	28.9 (6.2)	27.9 (5.1)	1.0	0.42	1.0	1.1
Education level (n=270)						
None	5 (2.1)	0 (0)	1			
Primary education	18 (7.6)	2 (6.1)	1.1	0.90	0.2	5.5
Secondary education	133 (56.1)	21 (63.6)	0.8	0.55	0.4	1.7
Tertiary education	81 (34.2)	10 (30.3)	1 (omitted)[1]			
Marital status (n=270)						
Married	40 (16.9)	4 (12.1)				
Single	196 (82.7)	29 (87.9)	0.7	0.49	0.2	2.0
Widow	1 (0.4)	0 (0.0)				
Location (n=270)						
City (urban)	201 (84.8)	28 (84.9)				
Village (rural)	36 (15.2)	5 (15.2)	1.0	1.00	0.4	2.8
Employment status (n=270)						
Employed	94 (39.7)	17 (51.5)				
Unemployed	102 (43.0)	14 (42.4)	1.3	0.48	0.6	2.8
Self employed	41 (17.3)	2 (6.1)	3.7	0.09	0.8	0.8
Gender of a baby (n=270)						
Female	125 (52.7)	14 (42.4)				
Male	112 (47.3)	19 (57.6)	0.7	0.27	0.3	1.4
Family average income						
Less than N$ 1000	207 (87.3)	26 (78.8)				
More than N$ 10000	30 (12.7)	7 (21.2)	0.5	0.19	0.2	1.3

1. Omitted because of collinearity.

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4.3.1 Age (n=270)

The average age of the mothers was 28.74, the standard deviation was 6.1 with the youngest mother aged eighteen, and the oldest aged forty-eight (see Figure 4.1). Figure 4.2 presents a boxplot of the age of the participants, according to whether they exclusively breastfed or not. Age was not associated with EBF (OR=1.0, CI=1.0 to 1.1, p=0.42).

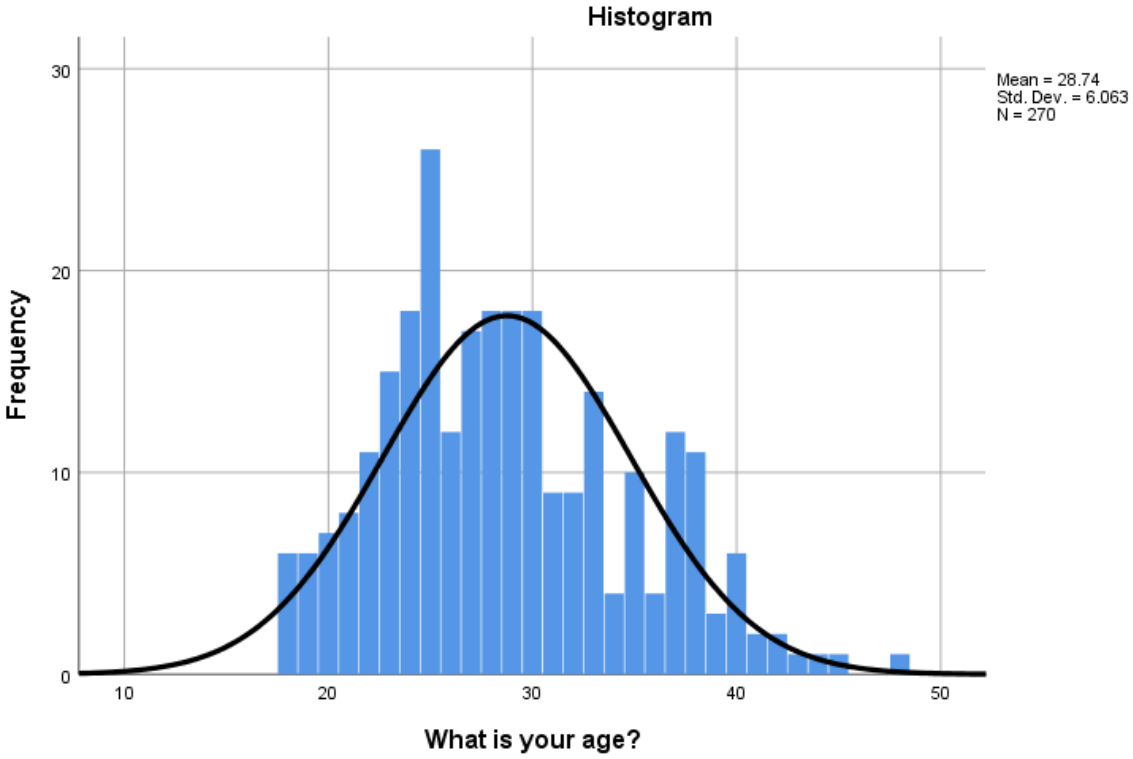

Figure 4.1 Age of the mothers

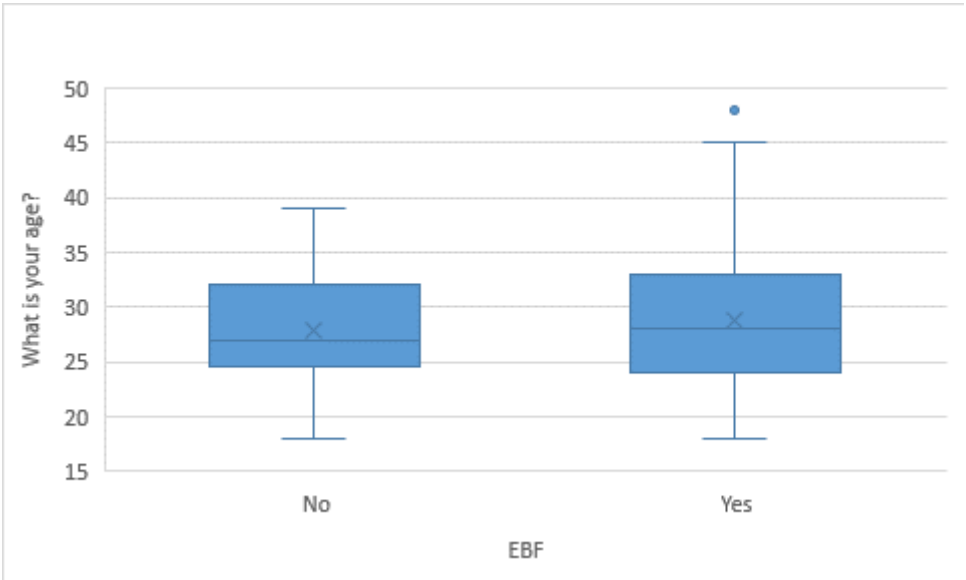

Figure 4.2 Age of mothers according to their EBF status

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4.3.2 Education level (n=270)

The results revealed that among the EBF mothers, only 2.1% (n=5) did not have any educational qualification, while the majority (56.1%; n=133) had secondary education with 34.2% (n=81) having a tertiary education qualification.

Logistic regression analysis was used to test if education status was a predictor of EBF and the results showed that neither primary (OR=1.1, CI=0.2 to 5.5, p=0.9) or secondary education (OR=0.8, CI=0.4 to 1.7, p=0.55) indicated a significant influence on EBF practices.

4.3.3 Marital status (n=270)

Most of the mothers were single 82.7% (n=196), 16.9% (n=40) were married, and 0.4% (n=1) were widows. Of the married mothers' 16.9% (n=40) were practicing EBF, as compared to 12.1% (n=4) who were not practicing EBF.

Among the single mothers, 82.7% (n=196) were practising EBF with their babies, in comparison to 87.9% (n=29) who were not practising EBF with their babies. Marital status was not found to be a significant predictor of EBF among mothers (OR=0.7, CI=0.2 to 2.0, p=0.49).

4.3.4 Location (n=270)

The majority of the mothers who were practising EBF lived in urban areas, (84.8%, n=201) with only 15.2% (n=36) living in rural areas.

Similarly, the mothers who were not practicing EBF (84.9%, n=28) were living primarily in urban areas and 15.2% (n=5) were staying in rural areas. The location was not associated with the practice of EBF (OR=1.0, CI=0.4 to 2.8, p=1.00).

4.3.5 Employment status (n=270)

The mothers in this study were asked if they were employed, unemployed or self-employed. Of the mothers who practiced EBF, 39.7% (n=94) were employed, 43.0% (n=102) were unemployed, and 17.3% (n=41) were self-employed.

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The employment status of the mothers who were not EBF showed, 51.5% (n=17) employed, 42.4% (n=14) unemployed and 6.1% (n=2) self-employed.

Although a higher percentage of unemployed mothers indicated that they exclusively breastfed their babies, when compared to mothers who were employed, the difference was not significant (OR=1.3, CI=0.6 to 2.8, p=0.48).

4.3.6 Gender of a baby (n=270)

The gender distribution of the babies of the mothers who were exclusively breastfed was 52.7% (n=125) females and 47.3% (n=112) males, while the gender distribution of babies among the mothers who were not practising EBF was 42.4% (n=14) females and to 57.6% (n=19) males.

EBF was more likely to occur in mothers with female babies than male babies, but the difference was not significant (OR=0.7, CI=0.3 to 1.4, p=0.27).

4.3.7 Family average income (n=270)

The majority of the mothers' family income was less than ten thousand Namibian dollars for the EBF mothers (87.3%, n=207) and 78.8% (n=26) for the non-EBF mothers.

Only 12.7% (n=30) of EBF mothers and 21.2% (n=7) of non-EBF mothers, had a family income of more than ten thousand Namibian dollars (see Table 4.3).

The mothers with a family income of less than ten thousand Namibian dollars were more likely to breastfeed than those with a family income of more than ten thousand Namibian dollars, although the difference was not significant (OR=0.5, CI=0.2 to 1.3, p=0.19).

4.4 Knowledge

The mothers were asked twelve questions to determine their knowledge regarding EBF, by indicating whether the statements given were true or false.

The mothers' responses are summarised in Table 4.4 and the results of the aggregated scores are shown in Table 4.5 and Figure 4.3.

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Table 4.4 Knowledge questions frequencies and percentage

	Response	
Variables: EBF	**True (n, %)**	**False (n, %)**
Breast milk provides all the nutrients that a baby needs in the first six (6) months.	266 (98.5%)	4 (1.5%)
Formula milk for example Nan, should be fed to all babies before breastfeeding.	34 (12.6%)	236 (87.4%)
Exclusive breastfeeding means that a baby gets only breast milk and is not offered other liquids or foods from 0-6 months.	246 (91.1)	24 (8.9%)
Breast milk is the ideal food for babies.	261 (96.7%)	9 (3.3%)
A baby younger than six (6) months old should be breastfed on demand, whenever the baby wants.	226 (83.7%)	44 (16.3%)
Expressed breast milk can be given to a baby when the mother is away at work or at school.	221 (81.7%)	49 (18.2%)
A breast-feeding mother should eat healthy food to increase milk production.	266 (98.5%)	4 (1.5%)
Mothers experiencing difficulties with breast-feeding should seek professional help from nurses, midwives and doctors.	247 (91.5%)	23 (8.5%)
Colostrum (mothers' first milk) is the best milk for the baby to maintain its immunity.	263 (97.4%)	7 (2.6%)
Exclusive breastfeeding can function as a natural method of contraception (family planning).	148 (54.8%)	122 (45.2%)
A baby who is not exclusively breastfed is more vulnerable (exposed) to infectious diseases.	215 (79.6%)	55 (20.4%)
A baby who drinks formula milk is just as healthy as a child who is breastfed exclusively.	80 (29.6%)	190 (70.4%)

Table 4.5 Knowledge score *EBF

	EBF (Yes) n=237	EBF (No)n=33	Odds ratio	P value	[95% Conf. Interval]	
Mean	9.2	9.0	1.1	0.54	0.8	1.4
SD	1.3	1.5				

The mean knowledge scores were 9.2 (SD=1.3) and 9.0 (SD=1.5) for EBF mothers and non-EBF mothers, respectively. These knowledge scores indicate generally high knowledge scores considering that the total score that could be obtained was 12.

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The odds ratio of close to 1 (OR=1.1, CI=0.8 to 1.4, p=0.54) showed that the knowledge about EBF did not predict the EBF practices of the mothers. The overall mean knowledge score percentage was 76.3% (SD=10.7), within a range from 42% to 100%.

The mean percentage for EBF mothers was 76.5% (SD=10.5) and for non-EBF mothers, the mean percentage was 75.3% (SD=12.2).

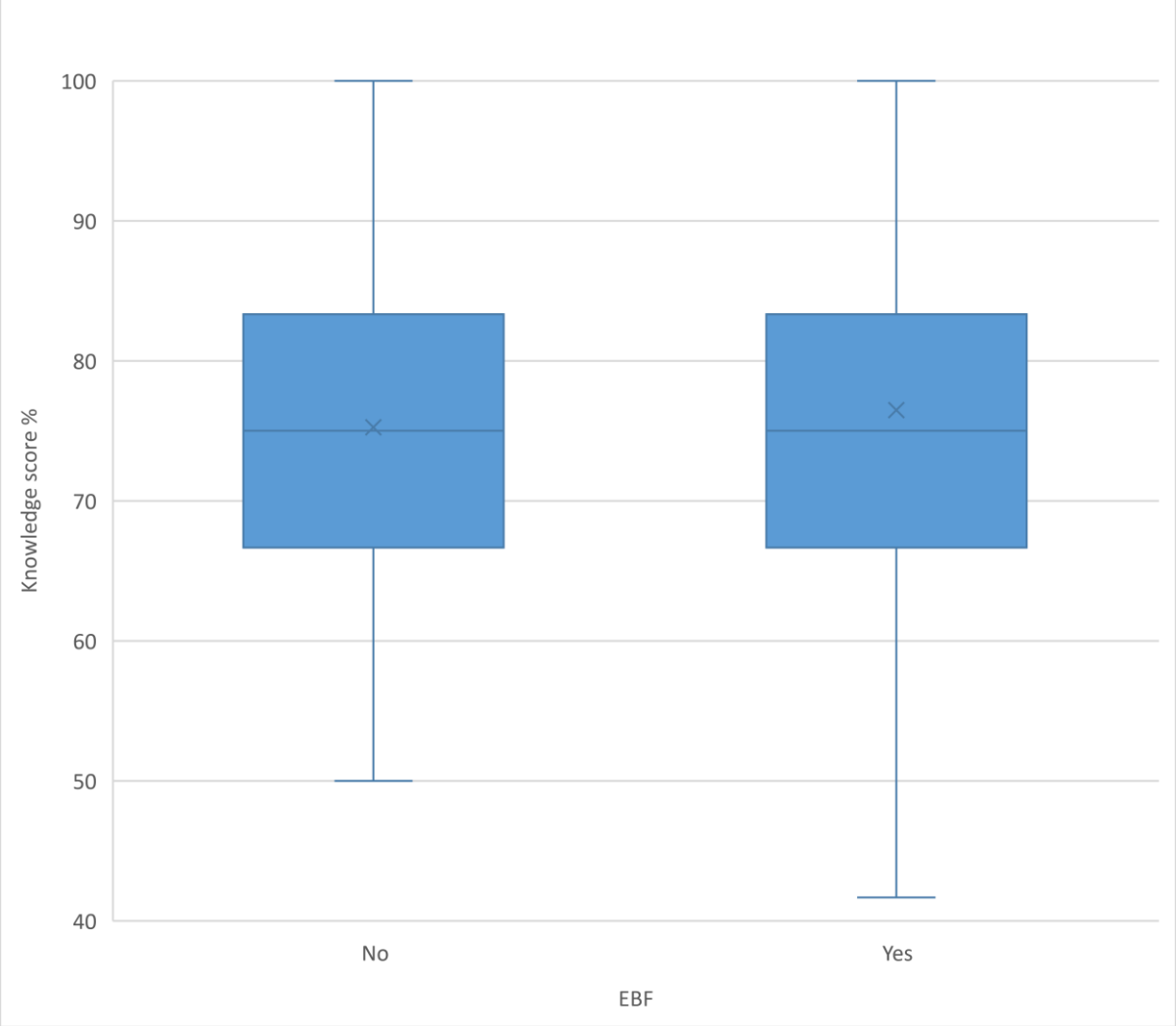

Figure 4.3 Knowledge scores (indicated as percentages)

4.5 Biophysical Factors

The mothers were asked to provide the details of their biophysical factors as indicated in Table 4.6 below.

These factors were analysed to determine if they predicted the mothers' EBF practices using logistic regression. Each of the variables is discussed below.

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Table 4.6. Biophysical factors

Variable	EBF-Yes	EBF-No	Odds ratio	P value	[95% Conf. Interval]	
Number of pregnancies (=270)						
One	84 (35.4)	15 (45.5)				
Two	71 (30.0)	13 (39.4)	1.0	0.95	0.4	2.2
More than two	82 (34.6)	5 (15.1)	3.0	0.05	1.0	8.4
ANC attendance during pregnancy (n=270)						
Yes	228 (96.2)	31 (93.9)				
No	9 (3.8)	2 (6.1)	0.6	0.54	0.1	3.0
Health education on EBF (n=270)						
Yes	210 (88.6)	28 (84.9)				
No	27 (11.4)	5 (15.1)	0.72	0.53	0.1	2.0
Baby place of birth (n=270)						
Hospital	234 (98.7)	32 (97.0)				
Home	3 (1.3)	1 (3.0)	0.4	0.45	0.0	4.1
Mode of delivery (n=270)						
Normal delivery	192 (81.0)	9 (27.3)				
Caesarean section	45 (19.0)	24 (72.7)	0.6	0.27	0.3	1.4
Number of children (n=270)						
One	85 (35.9)	15 (45.5)				
Two	79 (33.3)	14 (42.4)	1.0	0.99	0.5	2.2
More than two	73 (30.8)	4 (12.1)	3.2	0.05	1.0	10.1
Breastfeeding initiation time (n=270)						
Immediately	80 (33.8)	11 (33.3)				
Thirty minutes	36 (15.2)	4 (12.1)	1.2	0.73	0.4	4.2
One hour	33 (13.9)	4 (12.2)	1.1	0.84	0.3	3.8
I don't remember	88 (37.1)	14 (42.5)	0.9	0.72	0.4	2.0
HIV status (n=270)						
HIV positive	18 (7.6)	4 (12.1)				
HIV negative	214 (90.3)	28 (84.9)	1.7	0.37	0.5	5.4
Not known						
Choose not to disclose	5 (2.1)	1 (3.0)	1.1	0.93	0.1	12.3
Illness preventing EBF (n=270)						
Yes	9(3.8)	1(3.0)				
No	228 (96.2)	32 (97.0)	0.8	0.83	0.1	6.5
Previous experience on EBF (n=270)						
Yes	151(63.7)	17 (51.5)				
No	86 (36.3)	16 (48.5)	0.6	0.18	0.3	1.3

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4.5.1 Number of pregnancies (n=270)

The results revealed that among the EBF group (n=237), 35.4% (n=84) had one previous pregnancy, 30.0% (n=71) had two previous pregnancies and 34.6% (n=82) had more than two previous pregnancies. In the non-EBF group, 45.5% (n=15) had one previous pregnancy, 39.4% (n=13) had two previous pregnancies and 15.2% (n=5) had more than two previous pregnancies. The mothers who had two pregnancies were as likely to practice EBF as mothers with one pregnancy (OR=1.0, CI=0.4 to 2.2, p=0.95). Mothers with two or more pregnancies were approximately three times more likely to practice EBF than those with one pregnancy (OR=2.9, CI=1.0 to 8.4, p=0.05) and this difference was significant with a p value equal to 0.05.

4.5.2 ANC attendance during pregnancy (n=270)

On ANC attendance, 96.2% (n=228) of the mothers who were EBF had attended ANC during pregnancy and (93.9%, n=31) of the mothers who were not EBF had not attended ANC. A few mother's 3.8% (n=9) who were practicing EBF did not attend ANC and 6.1%, (n=2) of the mothers who were not practicing EBF also did not attend ANC. ANC attendance did not show any significant difference in in their EBF practices among the mothers. Those who did not attend ANC were less likely to exclusively breastfeed than the mothers who attended ANC (OR=0.6, CI=0.1 to 3.0, p=0.54) although this difference was not significant.

4.5.3 Health education on EBF (n=270)

The majority of the mothers who received health education on EBF were practising EBF, (88.6%, n=210) in the EBF group and (84.9%, n=28) in the non-EBF group. Only a few mothers in both groups did not receive health education on EBF, (11.4%, n=27) in the EBF group and (15.2%, n=5) in the non-EBF group. The data analysis showed that mothers who did not receive health education on EBF were less likely to breastfeed than those who received health education on EBF (OR=0.7, CI=0.3 to 2.0, p=0.53). However, this difference was not significant.

4.5.4 Baby place of birth (n=270)

Most of the EBF mothers gave birth in a hospital (98.7%, n=234). Similarly, most of the non-EBF mothers gave birth in a hospital (97.0%, n=32). A small number of the

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mothers gave birth at home in both the EBF and non-EBF group, (1.3%, n=3; 3.0%, n=1) respectively. The difference in the practice of EBF, based on the place of birth was small and not significant (OR=0.4, CI=0.0 to 4.1, p=0.45).

4.5.5 Mode of delivery (n=270)

The data analysis revealed that the majority of the women who were in the EBF group (81.0%, n=192), had a normal delivery while 72.7% (n=24) in the non-EBF group had a normal delivery. Mothers 19% (n=45) in the EBF group delivered by caesarean section compared to 27.3% (n=9) in the non-EBF group. Mothers who delivered by caesarean section were less likely to practice EBF than the mothers who had a normal delivery (OR=0.27, CI=0.3 to 1.4, p=0.27) although this was not significant.

4.5.6 Number of children (n=270)

The proportions of mothers who were practising EBF was relatively evenly distributed among the mothers with one, two or more than two children, (35.9%, n=85; 33.3, n=79; 30.8%, n=73). In the non-EBF group, the mothers with one and two children had higher percentages (45.5%, n=15), (42.4%, n=14) respectively, compared to 12.1% (n=4) for mothers with more than two children. There was no predicted difference in the practice of EBF between mothers with one child and two children (OR=1.0, CI=0.5 to 2.2, p=0.99). Mothers with more than two children were more likely to exclusively breastfeed than mothers with one child (OR=3.2, CI=1.0 to 10.1, p=0.05). The difference was significant at the 95% confidence interval, p=0.05).

4.5.7 Breastfeeding initiation time after birth (n=270)

Most of the mothers, 37.1% (n=88), in the EBF group could not recall how soon after birth they initiated breastfeeding. About 33.8% (n=80) of the mothers-initiated breastfeeding immediately after delivery. Those who initiated within thirty minutes and an hour after delivery were (15.2%, n=36; 13.9 %, n=33), respectively. A similar pattern is shown among the mothers who were not EBF, with 42.4% (n=4) not remembering, followed by those who initiated EBF immediately at 33.3% (n=11). Mothers who initiated breastfeeding within thirty minutes and one hour were 12.1% (n=4) for both. The mothers who initiated breastfeeding after thirty minutes were more likely to practise EBF compared to those who initiated it immediately (OR=1.2, CI=0.4 to 4.2, p=0.73). Both mothers who initiated breastfeeding after one hour and those

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who forgot when they initiated breastfeeding were less likely to practise EBF (OR=1.1, CI=0.3 to 3.8, p=0.84) and (OR=0.9, CI=0.4 to 2.0, p=0.74). However, none of these differences was significant.

4.5.8 HIV status (n=270)

In the EBF group, most of the mothers (90.3%, n=214) were HIV negative, with 7.6% (n=18) being HIV positive. The rest of the mothers decided not to disclose their status, 2.1% (n=5). Among the non-EBF group, 84.9% (n=28) were HIV negative, 12.1% (n=4) were positive, and a mere 3.0% (n=1) chose not to disclose their status. On regression analysis, HIV status was not a predictor of EBF.

4.5.9 Illness preventing EBF (n=270)

A few mothers in both groups reported having illnesses which prevented them from practicing EBF, namely, 3.0% (n=1) and 3.8% (n=9) in the non-EBF group and EBF group, respectively. The mothers reported that illnesses such as epilepsy, HIV as well as previous breast surgery were among the illnesses that prevented them from practicing EBF. The majority of the mothers experienced no illnesses that prevented them from practicing EBF, with 97.0% (n=32) in the non- EBF group and 96.2% (n=237) in the EBF group. There was no association between illness and the practice of EBF (OR=0.7, CI=0.1 to 6.5, p=0.83).

4.5.10 Previous experience on EBF (n=270)

The majority of the mothers had previous breastfeeding experience, 63.7% (n=151) in the EBF group and 51.5% (n=17) in the non-EBF group. Of the mothers who had no previous breastfeeding experience, 36.3% (n=86) and 48.5% (n=16) were in the EBF and non-EBF groups, respectively. The difference was not significant (OR=0.6, CI=0.3 to 1.3, p=0.18).

4.6 Mother's Attitude

The study questionnaire included eighteen Likert scale questions to determine the participants' attitude towards EBF. Mothers responded by indicating if they strongly agree, agree, disagree or strongly disagree with the given statements. Table 4.7 below provides the summary of the mothers' responses, as well as the results of the regression analysis. A summary of the mothers' attitude scores is given in Table 4.8.

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Table 4.7 Mothers attitudes

Variable	EBF-YES	EBF-NO
Breast milk is more convenient than formula milk. (n=270)		
Strongly Disagree	6 (2.5)	0 (0.0)
Disagree	2 (0.8)	0 (0.0)
Agree	69 (29.1)	6 (18.2)
Strongly Agree	160 (67.5)	27 (81.8)
Exclusively breastfeeding will cause breast cancer. (n=270)		
Strongly Disagree	1 (0.4)	0 (0.0)
Disagree	7 (3.0)	0 (0.0)
Agree	89 (37.6)	14 (42.4)
Strongly Agree	140 (59.0)	19 (57.6)
Exclusive breastfeeding can allow the mothers weight to return to normal earlier than formula feeding. (n=270)		
Strongly Disagree	14 (5.9)	2 (6.1)
Disagree	91 (38.4)	12 (36.4)
Agree	85 (35.9)	14 (42.4)
Strongly Agree	47 (19.8)	5 (15.1)
Breastfeeding exclusively will make a mothers' breasts flabby. (n=270)		
Strongly Disagree	35 (14.8)	6 (18.2)
Disagree	82 (34.6)	13 (39.4)
Agree	74 (31.2)	8 (24.2)
Strongly Agree	46 (19.4)	6 (18.2)
I would feel embarrassed if someone were to see me breastfeeding in public. (n=270)		
Strongly Disagree	25 (10.6)	2 (6.1)
Disagree	24 (10.1)	6 (18.2)
Agree	79 (33.3)	11 (33.3)
Strongly Agree	109 (46.0)	14 (42.4)
As a mother, I will make every effort to breastfeed exclusively. (n=270)		
Strongly Disagree	11 (4.6)	0 (0.0)
Disagree	9 (3.8)	4 (12.1)
Agree	78 (32.9)	13 (39.4)
Strongly Agree	139 (58.7)	16 (48.5)
Breastfeeding is old fashioned, and it makes me tired. (n=270)		
Strongly Disagree	5 (2.1)	1 (3.0)

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Disagree	9 (3.8)	2 (6.0)
Agree	61 (25.7)	5 (15.2)
Strongly Agree	162 (68.4)	25 (75.8)
The lack of public facilities for breastfeeding makes it difficult for me to breastfeed exclusively. (n=270)		
Strongly Disagree	19 (8.0)	4 (12.1)
Disagree	36 (15.2)	7 (21.2)
Agree	89 (37.6)	6 (18.2)
Strongly Agree	93 (39.2)	16 (48.5)
At the age of 0-6 months, mothers should breastfeed babies on demand (n=270)		
Strongly Disagree	17 (7.2)	5 (15.1)
Disagree	20 (8.4)	1 (3.0)
Agree	72 (30.4)	12 (36.4)
Strongly Agree	128 (54.0)	15 (45.5)
For working mothers, breast milk can be replaced with formula milk. (n=270)		
Strongly Disagree	53 (22.4)	6 (18.2)
Disagree	92 (38.8)	17 (51.5)
Agree	58 (24.5)	7 (21.2)
Strongly Agree	34 (14.3)	3 (9.1)
Mothers who do not breastfeed produce less milk. (n=270)		
Strongly Disagree	43 (18.1)	9 (27.3)
Disagree	82 (34.6)	11 (33.3)
Agree	64 (27.0)	10 (30.3)
Strongly Agree	48 (20.3)	3 (9.1)
Breastfeeding can strengthen the bond between mother and child. (n=270)		
Strongly Disagree	7 (3.0)	0 (0.0)
Disagree	14 (5.9)	3 (9.1)
Agree	63 (26.6)	10 (30.3)
Strongly Agree	153 (64.5)	20 (60.6)
Exclusive breastfeeding is more time consuming than formula feeding. (n=270)		
Strongly Disagree	31 (13.0)	1 (3.1)
Disagree	66 (27.9)	10 (30.3)
Agree	62 (26.2)	11 (33.3)
Strongly Agree	78 (32.9)	11 (33.3)
A mother should give colostrum (first milk) to her baby from the first day until the fourth day. (n=270)		

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Strongly Disagree	18 (7.6)	4 (12.1)
Disagree	22 (9.3)	2 (6.1)
Agree	61 (25.7)	11 (33.3)
Strongly Agree	136 (57.4)	16 (48.5)
Formula milk is more easily digested and has more complete nutritional contents than breast milk. (n=270)		
Strongly Disagree	27 (11.4)	3 (9.1)
Disagree	29 (12.2)	2 (6.1)
Agree	85 (35.9)	8 (24.2)
Strongly Agree	96 (40.5)	20 (60.6)
A mother experiencing difficulty in breastfeeding should not breastfeed her child. (n=270)		
Strongly Disagree	31 (13.1)	9 (27.3)
Disagree	60 (25.3)	10 (30.3)
Agree	83 (35.0)	9 (27.3)
Strongly Agree	63 (26.6)	5 (15.1)
A mother should wash her hands first with soap as well as cleaning her breast with warm water before feeding her child. (n=270)		
Strongly Disagree	8 (3.4)	0 (0.0)
Disagree	14 (5.9)	0 (0.0)
Agree	75 (31.7)	10 (30.3)
Strongly Agree	140 (59.0)	23 (69.7)
A busy mother can breastfeed her child sometimes and give formula at other times. (n=270)		
Strongly Disagree	64 (27.0)	7 (21.2)
Disagree	93 (39.2)	16 (48.5)
Agree	50 (21.1)	6 (18.2)
Strongly Agree	30 (12.7)	4 (12.1)

Table 4.8 Mean mothers' attitude scores

	EBF-Yes	EBF-No	Odds ratio	P value	[95% Conf. Interval]	
Mean	54.9	54.4	1.0	0.63	1.0	1.1
SD	5.8	4.1				

The mean attitude score was 54.9 (5.8) (out of a maximum score of 72) for mothers who were EBF and 54.4 (4.1) for mothers who were not EBF. The EBF group had a slightly higher attitude score (positive attitude) than the non-EBF group.

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The reported odds ratio of close to 1 (OR=1.0), CI=1.0 to 1.1, p=0.63) revealed that the attitude of the mothers was not a predictor of EBF practices. The mean attitude score percentage across both groups was high (76.2%, SD=7.8). Figure 4.4 indicates the attitude score percentage across both groups.

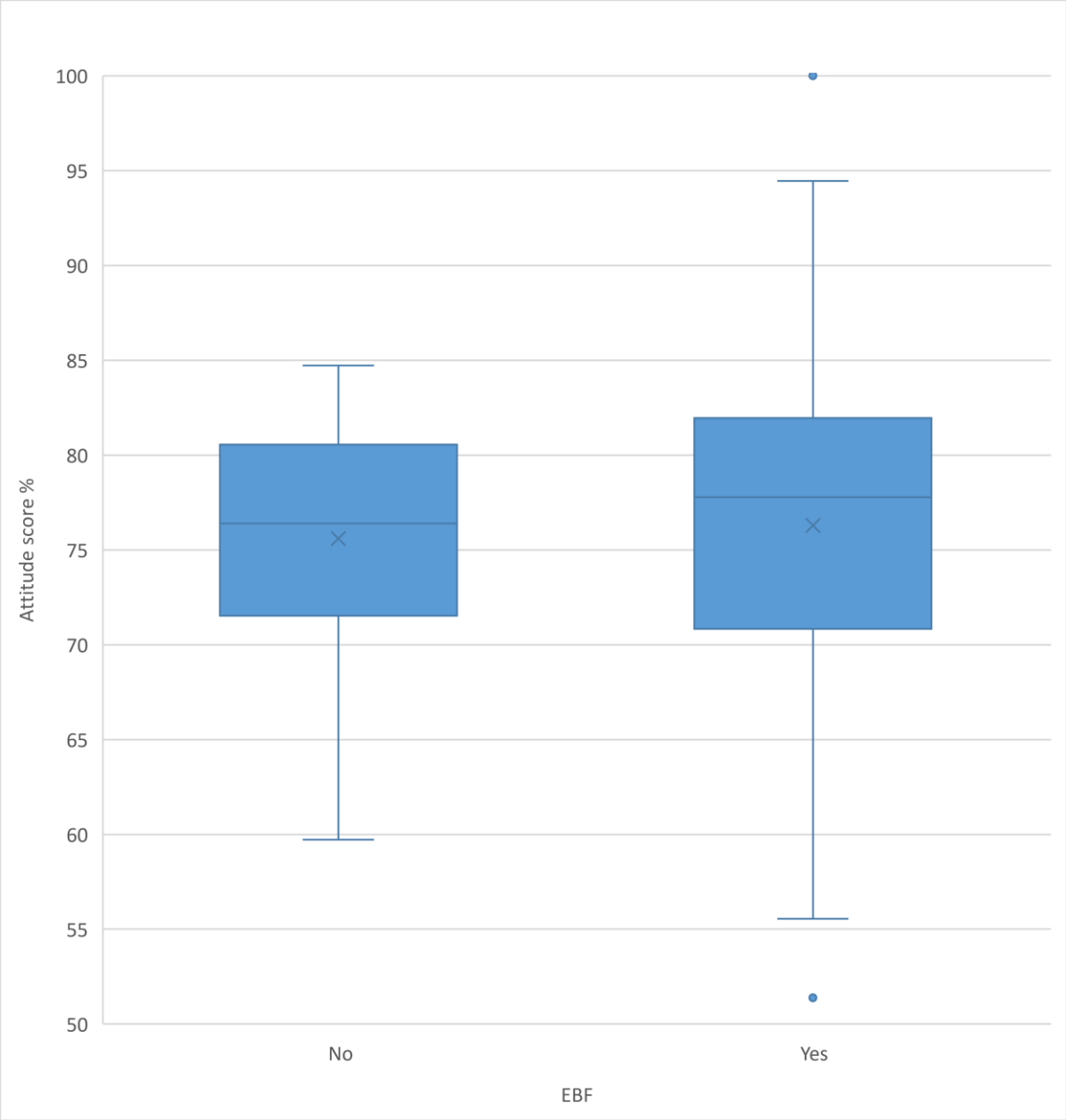

Figure 4.4 Attitude scores (indicated as percentages)

4.7 Social Factors

The social factors that affect mothers EBF practices are discussed here, based on the responses of the mothers, as summarised in Table 4.9. The responses and the logistic regression results are provided and discussed below the table.

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Table 4.9 Social Factors that affect EBF practice among mothers.

Variable	EBF-Yes	EBF-No	Odds ratio	P value	[95% Conf. Interval]	
Did you get support and encouragement from health care professionals about the importance of exclusive breastfeeding? (n=270)						
Yes	197 (83.1)	31 (93.9)				
No	40 (16.9)	2 (6.1)	0.3	0.13	0.1	1.4
Did the health care professional inform you about the effects of not exclusively breastfeeding the baby? (n=270)						
Yes	198 (83.5)	28 (84.9)				
No	39 (16.5)	5 (15.1)	0.9	0.85	0.3	2.5
Did the health care professional explain that the early initiation of breastfeeding is very important because the colostrum (first milk) content is good for the baby? (n=270)						
Yes	219 (92.4)	28 (84.9)				
No	18 (7.6)	5 (15.1)	2.2	0.15	0.7	0.7
Did the health care professional give you health education on the correct attachment and positioning of your baby during breastfeeding? (n=270)						
Yes	198 (83.5)	28 (84.9)				
No	39 (16.5)	5 (15.1)	0.9	0.85	0.3	2.5
Did your partner support your decision to exclusively breastfeed your child?						
Yes	210 (88.6)	30 (90.9)				
No	27 (11.4)	3 (9.1)	0.8	0.69	0.2	2.7
Did your family support you during the exclusive breastfeeding period?						
Yes	214 (90.3)	29 (87.9)				
No	23 (9.7)	4 (12.1)	1.3	0.67	0.4	4.0
Did you encounter any family constraints when you initiated exclusive breastfeeding?						
Yes	155 (65.4)	19 (57.6)				
No	82 (34.6)	14 (42.4)	0.7	0.38	0.3	1.5

4.7.1 Did you get support and encouragement from health care professionals about the importance of exclusive breastfeeding? (n=270)

Most mothers who took part in this study reported to have support and encouragement from healthcare professionals about the importance of EBF. Eighty three percent (83.1%, n=197) and 93.9% (n=31) said yes in the EBF group and non-EBF group, respectively. A low percentage of the participants, 16.9% (n=40) and 6.1% (n=2) in the

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EBF group and non-EBF group respectively reported not receiving support and encouragement from health care professionals about the importance of EBF. The regression analysis did not indicate a significant influence of health care worker support on EBF practices (OR=0.3, CI=0.1 to 1.4, p=0.13).

4.7.2 Did the health care professional inform you about the effects of not exclusively breastfeeding the baby? (n=270)

The majority of mothers indicated that health care professionals informed them about the effects of not practising EBF. This is demonstrated by an 83.5% (n=198) responding yes and only about 16.5% (n=39) responding no among the EBF mothers. Within the group of non-EBF mothers, 84.9% (n=28) responded yes, and 15.2% (n=5) responded that they were not informed about the effects of not practising EBF on their baby by health care professions. No significant differences were shown in the regression analysis (OR=0.9, CI=0.3 to 2.5, p=0.85).

4.7.3 Did the health care professional explain that the early initiation of breastfeeding is very important because the colostrum (first milk) content is good for the baby? (n=270)

Both mothers in the EBF group 92.4% (n=219) and in the non-EBF group 84.9% (n=28) confirmed that the health care professional explained that the early initiation of breastfeeding is very important because the colostrum (first milk) content is good for the baby.

On the other hand, 7.6% (n=18) of the EBF mothers and 15.2% (n=5) of the non-EBF mothers responded that health professionals did not explain to them that early initiation of breastfeeding is very important because the colostrum (first milk) content is good for the baby. On regression analysis the differences were not significant (OR=2.2, CI=0.7 to 6.3, p=0.15).

4.7.4 Did the health care professional give your health education on the correct attachment and positioning of your baby during breastfeeding? (n=270)

The majority of the mothers in both the EBF group (83.5%, n=198 and the non-EBF group (84.9%, n=28) admitted to having been given health education on the correct attachment and positioning of their baby during breastfeeding by health care professionals. About 16.5% (n=39) of EBF mothers and 15.2% (n=5) of the non-EBF

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mothers said they did not receive health education on correct attachment and positioning of the baby. The logistic regression analysis showed no significant differences (OR=0.9, CI=0.3 to 2.5, p=0.85).

4.7.5 Did your partner support your decision to exclusively breastfeed your child? (n=270)

Concerning partners support on their decision to exclusively breastfeed, 88.6% (n=210) and 90.9% (n=30) in the exclusive and non-EBF groups respectively, reported having received support. Approximately 11.4%, (n=27) of the EBF mothers and 9.1% (n=3) of the non-exclusive mothers reported that their partners did not support their decision to exclusively breastfeed their baby. No significant differences were reported on regression analysis (OR=0.8, CI=0.2 to 2.7, p=0.69).

4.7.6 Did your family support you during the exclusive breastfeeding period? (n=270)

The majority (90.3%, n=214) of the EBF mothers reported that their family supported them during the EBF period. In the non-EBF group about 87.9% (n=29) also reported to have received family support during the period of EBF. A few mothers indicated that they did not receive any support from family during the breastfeeding period, 9.7% (n=23) and 12.1% (n=4) in the EBF and non-EBF groups, respectively. The differences were not significant (OR=1.2, CI=0.4 to 4.0, p=0.67).

4.7.7 Did you encounter any family constraints when you initiated exclusive breastfeeding? (n=270)

In relation to family constraints after initiating EBF, 65.4% (n=155) of the EBF mothers said they did not encounter any family constraints compared to 57.6% (n=19) in the non-EBF group. The mothers who said yes to the question were 34.6% (n=82) and 42.4% (n=14) in the EBF and non-EBF group, respectively. These differences were however not significant (OR=0.7, CI=0.3 to 1.5, p=0.38).

4.8 Cultural Factors

The cultural factors that affected the mothers EBF practices are discussed here, based on the responses of the mothers, as summarised in Table 4.10. The responses and the logistic regression results are provided and discussed in the table below.

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Table 4.10 Cultural Factors that affect EBF practice among mothers.

Variable	EBF-Yes	EBF-No	Odds ratio	P value	[95% Conf. Interval]	
Is exclusive breastfeeding recommended in your culture? (n=270)						
Yes	204 (86.1)	29 (87.9)				
No	33 (13.9)	4 (12.1)	0.9	0.78	0.3	2.6
Do you perform traditional ceremonies associated with the birth of a baby at the age of 0-6 months where the baby was fed with any other food besides breast milk? (n=270)						
Yes	63 (26.6)	10 (30.3)				
No	174 (73.4)	23 (69.7)	0.8	0.65	0.4	1.8
Is it common to rub herbs, Vaseline or water on the mother's nipple during exclusive breastfeeding? (n=270)						
Yes	79 (33.3)	10 (30.3)				
No	158 (66.7)	23 (69.7)	1.2	0.73	0.5	2.5
Is it common to cover a mother's breast when breastfeeding? (n=270)						
Yes	131 (55.3)	17 (51.5)				
No	106 (44.7)	16 (48.5)	1.2	0.69	0.6	2.4
Do families in your environment have a habit of giving other foods to the baby aged 0-6 months? (n=270)						
Yes	85 (35.9)	16 (48.5)				
No	152 (64.1)	17 (51.5)	0.6	0.16	0.3	1.2
Does your culture prohibit sexual activity while breastfeeding? (n=270)						
Yes	80 (33.8)	12 (36.4)				
No	157 (66.2)	21 (63.6)	0.9	0.77	0.4	1.9
Were you guided by any family member on breastfeeding option practices? (n=270)						
Yes	145 (61.2)	22 (66.7)				
No	92 (38.8)	11 (33.3)	0.8	0.54	0.4	1.7

4.8.1 Is exclusive breastfeeding recommended in your culture? (n=270)

The majority of mothers reported that EBF is recommended in their culture: 86.1% (n=204) and 87.9% (n=29) in the EBF and non-EBF groups, respectively. Just 13.9%

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(n=33) and 12.1% (n=4) among the EBF and non-EBF mothers responded that EBF was not recommended in their culture.

The regression analysis showed that there were no significant differences between the EBF group and non-EBF group regarding whether breastfeeding was recommended by the culture or not (OR=0.9, CI=0.3 to 2.6, p=0.78).

4.8.2 Did you perform traditional ceremonies associated with the birth of a baby at the age of 0-6 months where the baby was fed with any other food besides breast milk? 9n=270)

The majority of the mothers responded in the negative, regarding traditional ceremonies requiring mothers to feed their babies with other foods besides breast milk, 73.4% (n=174) among the EBF group and 69.7% (n=23) among the non-EBF group. Twenty-six percent (26%, n=63) and 30.3% (n=10) confirmed that they performed traditional ceremonies requiring mothers to feed their babies with other foods other than breast milk. These differences were however not significant (OR=0.8, CI=0.4 to 1.8, p=0.65).

4.8.3 Is it common to rub herbs, Vaseline or water on the mother's nipple during exclusive breastfeeding? (n=270)

The majority of the mothers indicated that it was not common to rub herbs, Vaseline or water on their nipples during EBF: 66.7% (n=158) in the EBF group and 69.7% (n=23) in the non-EBF group. Only 33.3% (n=79) and 30.3% (n=10) in the EBF and non-EBF groups respectively said that it was common to use herbs, Vaseline or water on the mother's nipples during EBF. However, no significant differences were reported on regression analysis (OR=1.2, CI=0.5 to 2.5, p=0.73).

4.8.4 Is it common to cover a mother's breast when breastfeeding? (n=270)

More than half of the mothers (55.3%, n=131) in the EBF group and 51.5% (n=17) in the non-EBF group responded that covering a mother's breast when breastfeeding was common.

Less than half said that the practice was not common: 44.7% (n=106) and 48.5% (n=16) among the EBF and non-EBF groups, respectively. No significant differences were reported on regression analysis (OR=1.2, CI=0.6 to 2.4, p=0.69).

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4.8.5 Do families in your environment have a habit of giving other foods to the baby age of 0-6 months? (n=270)

Most of the mothers reported that families in their environment did not display a habit of giving other foods to the baby age of 0-6 months: 64.1% (n=152) of the EBF mothers and 51.5% (n=17) of the non-EBF mothers. However, 35.9%, (n=85) of the EBF mothers and 48.5% (n=16) of the non-EBF mothers reported that that there were families in their environment with a habit of giving other foods to the baby aged 0-6 months. Nonetheless, no significant differences were reported on analysis (OR=0.6, CI=0.3 to 1.2, p=0.16).

4.8.6 Does your culture prohibit sexual activity while breastfeeding? (n=270)

Sexual activity was reported to be allowed by most of the mothers in the EBF and the non-EBF groups: 66.2% (n=157) and 63.6% (n=21), respectively.

Comparatively, 33.8% (n=80) of the EBF mothers indicated that their culture prohibited sexual activity while breastfeeding and 36.4% (n=12) in the non-EBF group. The differences were not significant (OR=0.9, CI=0.4 to 1.9, p=0.77).

4.8.7 Were you guided by any family member on breastfeeding options?

Most of the mother's 61.2% (n=145) and 66.7% (n=22) of the EBF and non-EBF group respectively, said that they were guided by a family member on breastfeeding options.

In contrast, 38.8% (n=92) of the EBF mothers and 33.3% (n=11) of the non-EBF group were not guided by a family member. These differences were not significant on regression analysis (OR=0.8, CI=0.4 to 1.7, p=0.54).

4.8.8 What do you think may promote exclusive breastfeeding among mothers? (n=235)

The participants were asked an open-ended question on what they thought could promote EBF and a number of responses were provided (See Table 4.11). The response rate was 94.4% (n=255). These responses were mainly short, and the participants did not provide detailed explanations. The responses generated four major themes on thematic analysis, which were: 1) health system related support

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measures (n=202; 79.2%); 2) workplace-based support (n=28; 11%); 3) public health support (n=22; 8.6%); and 4) personal support measures (n=3; 1.2%).

Table 4.11 Themes on the promotion of exclusive breastfeeding

Theme	Frequency n (%)	Summary of comments
Health system related support measures - Health education - Support groups	202 (79.2%)	Comprehensive health education will enable mothers to acquire more information on the importance and benefits of breastfeeding exclusively. Support emotional/psychological and encouragement from partners, family and nurses may promote exclusive breastfeeding.
Workplace-based support - Maternity leave - Breastfeeding breaks while at work - Transport allowance - Exclusive breastfeeding policy	28 (11.0%)	Extend maternity leave to 6 months if not possible mother should be given 1 to 2 hours to go home to breastfeed. Flexible time to breastfeed or pump milk at least 1 to 2 hours. Have a written breastfeeding policy that is routinely communicated to mothers at the workplace.
Public health approaches/support - Facilities for breastfeeding - Limiting advertising of formula feeding	22 (8.6%)	Create a private room in public facilities, such as shopping malls, for mothers to breastfeed. Limiting advertisement of formula milk since it may discourage mothers from breastfeeding.
Personal - Motivation to EBF - Personal practices	3 (1.2%)	The mothers stated several personal factors that they thought could promote the practice of EBF, some of them are: “motivation”, “dedication”, “courage”, “time”, “self-esteem”, “self-driven” and “avoid pacifiers”.
Total	**255 (100%)**	

The mothers expressed that being provided health education and forming breastfeeding support groups would encourage them to practice EBF. Mothers further expressed that employers can do more to support them through breastfeeding policies

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that support mothers to breastfeed more. For example, extension of maternity leave periods to six months and providing breastfeeding breaks. On public support, the mothers highlighted that the government should establish facilities for breastfeeding in public places and should develop policies that limit the advertisement of formula milk. On personal matters, the mothers stated several personal factors that they thought could promote the practice of EBF. Some of them were: “motivation”, “dedication”, “courage”, “time”, “self-esteem”, being “self-driven” and to “avoid pacifiers”.

4.9 Conclusion

The results of the study revealed that, the EBF prevalence rate was high at 87.8% among the mothers in this study. The knowledge scores on EBF and attitude scores towards EBF were high in both EBF mothers and non-EBF mothers. While there were differences between the groups, only two variables showed significant differences between the groups. Mothers who had been pregnant more than twice were more likely to exclusively breastfeed than those with one pregnancy were, and mothers with more than two children were more likely to breastfeed than those who had only one child. These findings will be discussed and interpreted in the context of the literature in Chapter Five.

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CHAPTER FIVE

DISCUSSION, CONCLUSIONS AND RECOMMENDATIONS

5.1 Introduction

The results of this study were presented in Chapter Four. These results will be discussed in this chapter by making interpretations with reference to the current literature. Furthermore, the conclusions, recommendations and limitations of the study will be discussed.

5.2 Discussion

The overall aim of the study was to investigate the factors that promote EBF amongst mothers at a public health facility in Windhoek, Namibia. The study revealed a high prevalence of EBF among the participants. There were few significant differences found when comparing factors influencing EBF amongst mothers who practised EBF with those who did not. In this chapter, the results of each of the following objectives will be discussed:

Objectives

1. To identify and describe the socio-demographic and economic factors that promote EBF among mothers.
2. To identify and describe the psychosocial and biophysical factors that promote EBF among mothers.
3. To identify and describe the socio-cultural factors that promote EBF among mothers.
4. To determine whether EBF knowledge is associated with EBF.

5.2.1 Prevalence of EBF

Prevalence is the number of cases of a disease or a particular health problem which presents in a particular population at a particular time (Porta, 2014:223). The prevalence of EBF refers to the number of women who were practising EBF at the time when data for this study was collected. The EBF prevalence was established by asking mothers the age of the baby and for how long they had exclusively breastfed their current baby. The results showed that the prevalence of EBF was 87.8%. The

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reported prevalence in this study is four times higher than the 19% reported in 2018 by Indongo and Mutorwa (2018:162) and twice as high as the global rate of 42%, as reported by UNICEF and WHO (2018:3). The contrasting differences may be attributed to the fact that the EBF rate in this study was self-reported and that the data collection was done cross sectionally. It therefore means that at the time of data collection, the mothers were practicing EBF; however, they may not continue to exclusively breastfeed until 6 months.

In addition, this study showed that the reported EBF rate was the highest amongst mothers with three-month old babies and the lowest amongst six-month old babies. However, no specific trend was observed. The literature indicates that in some studies, the highest prevalence rates were among the one-month age category and a decrease in the prevalence of EBF was observed, as the age of the baby increased (Indongo & Mutorwa, 2017:161; Adugna et al., 2017:5). The results of this study should be interpreted with caution, as the study was conducted among mothers who were accessing health care services. Such mothers may be more likely to follow recommendations from health care workers than mothers who do not access health care services.

5.2.2 Objective 1: To identify and describe socio-demographic and economic factors that promote EBF among mothers.

5.2.2.1 Mother's age

In this study no association was found between the age of the mother and the practice of EBF (OR=1.0). Evidence from the literature was contradictory, as some studies found a positive association whilst other studies found a negative association between age and EBF practice (Kitano et al., 2016:125). The study by Indongo and Mutorwa (2017:164) indicated that young mothers are more than likely to practise EBF than older mothers (Indongo & Mutorwa, 2017:164); while Kimani-Murage et al. (2015:322) found that younger mothers were less likely to practice EBF compared to older mothers. Another study from South Africa also found no association between age and EBF practices (Jama et al, 2017:5). Despite the results of this study not showing any differences, older mothers may have experience with breastfeeding and are therefore more likely to practice EBF than young mothers (Hossain, Islam, Kamarul & Hossain 2018:4; Asemahagn, 2016:6).

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5.2.2.2 Education level

Educational level refers to formal qualifications obtained by entering primary school through to higher education. The results revealed no significant differences in the practices of EBF among mothers with tertiary education compared to those with lower levels of education. The evidence related to the influence of educational level on EBF practices is inconclusive. In Somalia, no association was found between education level and the practice of EBF (Ministry of Health Republic of Somaliland, 2016:3). Two studies, showed that educated mothers were more likely to breastfeed exclusively, compared to the mothers without formal education (Tambe et al., 2018:1; Asemahagn, 2016:6).

Conversely, a study by Indongo and Mutorwa (2017:166) in Namibia showed that uneducated mothers were more likely to practise EBF in comparison to educated mothers. Although it can be expected that educated mothers would practice EBF more than uneducated mothers, there are other factors than can hinder educated mothers from practising EBF.

Educated mothers are more likely to be employed and hence have limited time to practise EBF compared to uneducated mothers who may be unemployed (Tadesse, Alemayehu, Shine, Asresahegn & Tadesse, 2019:5; Seid, Yesuf & Koye, 2013:14; Taddele, Abebe & Fentahun, 2014:500).

5.2.2.3 Marital status

The study showed that marital status was not a predictor of EBF practice. Similarly, results from a study in Ethiopia showed no significant differences when comparing EBF practices between married and unmarried mothers (Hunegnaw et al., 2017:4). On the contrary, two studies showed that married mothers were more likely to practice EBF than unmarried mothers (Indongo & Mutorwa, 2017:165; Agunbiade & Ogunleye, 2012:6).

If a mother is married, she might have a higher probability of practicing EBF, as she may receive support from her husband. Single mothers may not receive this support from their partners and may need to take on extra responsibilities such as working to provide for the family, hence limiting their time to provide EBF (Tambe et al., 2018:4).

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5.2.2.4 Location

The results showed no association between rural or urban dwelling and the practice of EBF. This is not consistent with studies done in Niger and Namibia, which reported that mothers from rural areas were more likely to practice EBF than urban mothers (Hitachi et al., 2019:3; Indongo & Mutorwa, 2017:165). On the contrary, Mekonen et al. (2018:7) reported in their study conducted in Ethiopia that rural mothers were less likely to initiate EBF compared to urban mothers. Mothers in rural areas are mostly not in formal employment and are less exposed to formula products so they may have time to practise EBF and they have less available feeding options (Liu, Shi, Spatz, Loh, Sun & Grisso, 2013:240). However, the rural mothers may have limited education and knowledge and may be involved in some cultural practices that hinder EBF practice. On the other hand, urban mothers may have better formal education and more knowledge on EBF, which they have obtained by attending health care services (Nyanga, Musita, Otieno & Kaseje, 2012:6635). However, the urban mothers could be employed which would reduce the time to practise EBF (Tadesse et al., 2019:3).

5.2.2.5 Employment status

This study indicated that there was no significant association between the employment status of the mother and the practice of EBF, although unemployed mothers were more likely to exclusively breastfeed their babies. This preference for practising EBF by unemployed mothers was demonstrated in a study in Ethiopia where unemployed mothers were five times more likely to practice EBF (Setegn et al., 2012:4). The findings of the present study, in Namibia, indicated that employed mothers were less likely to practice EBF compared to unemployed mothers (Indongo & Mutorwa, 2017:167). When mothers are unemployed, they are more inclined to have fewer restrictions against practising EBF than employed mothers, who may have limited maternity leave (three months compared to the six months required for EBF) and might not have facilities at work to express their breastmilk or to be able to breastfeed their babies while at work (Tadesse et al., 2019:5).

5.2.2.6 Gender of the baby

The gender of the baby was not significantly associated with EBF practice in this study, although mothers with female babies were more likely to practise EBF. The results of

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this study were confirmed by a study conducted in Ethiopia in which the gender of the infant was not associated with EBF practice (Alemayehu, Haider & Habte, and 2009:12). However, more recent evidence suggested that mothers with male babies were more likely to exclusively breastfeed for a longer period (Fombong et al., 2016:87; Hafeez & Quintana-Domeque, 2018:179; Fledderjohann et al., 2014:5-7).

Nevertheless, another study explained that male babies demand more feeds than female babies do. It was assumed that the breast milk alone is not enough, and hence, the male babies are not exclusively breastfed for long, as the breastfeeding is supplemented (Muchacha & Mtetwa 2015:18). Overall, the literature does not report on the reasons why one gender would be more likely to be breastfeed exclusively over the other.

5.2.2.7 Family average income

The mothers with a low family income were more than likely to exclusively breastfeed than those with a high family income, although the difference was statistically insignificant. A study conducted in Ethiopia found that mothers with a high income were less likely to practice EBF because they were more likely to be able to afford formula milk and had busy schedules that kept them away from home (Shifraw et al., 2015:4).

Muchacha and Mtetwa (2015:20) reported that mothers with a low income struggled to feed themselves and therefore struggled to meet the energy demands of practising EBF. The evidence on this factor is inconclusive, although it could be logical that low-income mothers would practise EBF. To conclude, no association between socio-demographic/economic factors and EBF practice were found. The literature also found antithetical results regarding socio-demographic/economic factors.

5.2.3 Objective 2: To identify and describe the psychosocial and biophysical factors that promote EBF among mothers.

5.2.3.1 Number of pregnancies and number of children

The study compared the number of pregnancies and the number of children to the practice of EBF. The mothers with more than two children were three times more likely

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to exclusively breastfeed, compared to mothers with less than two children. With the number of pregnancies, no difference in breastfeeding practices between mothers with one previous pregnancy and two previous pregnancies was observed. However, mothers with more than two previous pregnancies were three times more likely to breastfeed, compared to those with one child, and this result was significant.

The results contradicted the reports in two other studies, which showed no significant association between the multiparity and the practice of EBF (Mundagowa, Chadambuka, Chimberengwa & Mukora-Mutseyekwa, 2019:5; Mensah, Acheampong, Anokye, Okyere, Appiah-Brempong and Adjei, 2017:3). However, this study's results were supported by the findings of Hackman, Schaefer, Beiler, Rose and Paul (2015:156) who reported that multiparity was associated with EBF practices. It is expected that primiparous women (having given birth to one child) would practise EBF less than the multiparous women (having given birth to more than one child) (Adams, Ewu, Ugwu, Shakirat & Joseph, 2020:73; Dachew & Bifftu, 2014:1). Parity/Parous refers to a woman who has delivered one or more viable infant (Dippenaar & Serra 2012:182). Primiparous women are more likely to accept information from any sources as they may not know which messages are true and which are not, regarding EBF. Similarly, primiparous women may experience more challenges as they are breastfeeding for the first time, lack breastfeeding skills and have to adjust to motherhood (Afiyanti, 2010:30).

5.2.3.2 ANC attendance during pregnancy

Mothers who did not attend ANC were less likely to exclusively breastfeed than the mothers who attended ANC (OR=0.6, p=0.5, CI 0.1 to 3.0). Although this difference was not significant the literature has shown that mothers who attend ANC were more likely to practise EBF (Ugboaja, Nwosu, Igwegbe & OBI-Nwosu, 2013:47; Biks, Tariku & Tessema, 2015:4; Alebel, Tesma, Temesgen, Ferede & Kibret, 2018:1). By attending ANC, mothers showed that they comply with health care advice and are more likely to practise EBF as the practice is recommended by health care workers. Mothers also get educated on good health practices during ANC, which increases their knowledge, and this would probably have a positive impact on their EBF practices. In the study, ANC attendance was measured through self-reporting; so even though

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participants in both groups reported to be attending, the actual number of ANC visits was not measured.

5.2.3.3 Health education on EBF

The data analysis showed that mothers who did not receive health education on EBF were less likely to breastfeed than those who received health education on EBF (OR=0.7, p=0.5, CI 0.3 to 2.0), but this difference was not significant. Studies by Maonga et al. (2015:5) and Mgongo et al. (2018:6) showed that there was a significant positive association between health education given during ANC attendance and the practice of EBF among the mothers. One would expect mothers who receive health education on EBF to be more likely to practise EBF. However, according to the results of our study, the effect of education on EBF practices may have been too small to detect significant differences between groups.

5.2.3.4 Baby place of birth

The results showed that the majority (98.5%) of the mothers gave birth in hospital (266 out of 270 mothers) and the analysis reported that those who delivered at home were less likely to practise EBF. The difference was not statistically significant. Comparatively, other studies found that giving birth at a health facility was significantly associated with the practice of EBF (Alebel et al., 2018:1; Biks et al., 2015:5). No evidence was found to contradict that delivery at a health facility results in increased practice of EBF. This study had only four mothers who delivered at home, compared to 266. Hence it was statistically difficult to compare the practice of EBF between these two groups. The high number of mothers (98.5%, n=266) who delivered at the facility could be an indication that the Baby Friendly hospital Initiative, as implemented in Namibia, is having positive results, as most hospitals in Namibia have adopted the Ten steps to successful breastfeeding programme (MoHSS 2011:3).

5.2.3.5 Mode of delivery

Mothers who delivered by caesarean section were less likely to practice EBF than mothers who had a normal delivery, but the results were not significant. Although this result was not significant, it is congruent with studies by Shifraw et al. (2015:4) and Onah, Donatus, Ebenebe, Ezechukwu, Ekwochi, and Ndukwu (2014:1), which showed

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that mothers who delivered vaginally were more likely to practice EBF than those who delivered by caesarean section. Even when they initiate EBF, mothers who deliver by caesarean section are more likely to stop than mothers who delivered normally (Hobbs, Mannion, McDonald, Brockway & Tough, 2016:6). While the practice is to encourage all mothers to initiate and continue with EBF, regardless of the mode of delivery, mothers who deliver by caesarean section face some challenges. The challenges include the delay in having skin-to-skin contact with the baby, as the doctors complete the operation; the effect of anaesthesia and stress or fatigue from maternal complications (Benova, Siddiqi, Abejirinde & Badejo, 2020:9). Subsequently, there will be a delay in initiating breastfeeding which is related to mother baby separation, poor lactation due to lack of stimulation and reduced suckling ability of the baby (Hobbs et al., 2016:2).

5.2.3.6 Breastfeeding initiation time after birth

The results showed that mothers who initiated breastfeeding after thirty minutes of delivery were more likely to practise EBF compared to those who initiated immediately after delivery. Furthermore, the results indicated that mothers who initiated breastfeeding after one hour and those who forgot when they had initiated breastfeeding were less likely to practice EBF. Despite these results being inconsistent, they show a similar pattern that mothers who initiate breastfeeding within an hour are likely to practice EBF (Raghavan, Vineetha, Bharti, Kumar, Mukhopadhyay & Dhaliwal, 2014:747).

The results indicated that immediate initiation of breastfeeding was not associated with continuation of EBF and should be interpreted cautiously; because only 11 mothers out of 88 did not practice EBF among the mothers who initiated breastfeeding immediately. The factors that hinder mothers from initiating breastfeeding within an hour are the same factors that are likely to hinder their practice of EBF. These include delivering at home or delivery by caesarean section. Maternal complications may delay the initiation of EBF, because they need to be addressed. In addition, the baby might be taken away by hospital staff, due to other after delivery complications such as neonatal resuscitation (Kalisa, Malande, Nankunda & Tumwine, 2015:1130). The general recommendation is that all mothers should be supported to initiate

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breastfeeding within an hour, regardless of the mode or place of delivery (UNICEF/IBFAN, 2016:8).

5.2.3.7 HIV status

There was no significant difference in the practice of EBF between the HIV positive mothers and the HIV negative mothers. The majority of the mothers reported to be HIV negative (242 out of 270), making the proportion of positive (22 out of 270) mothers and those who did not disclose their status (4 out of 270) relatively small. The literature showed that HIV-positive mothers practised EBF, (Mundagowa et al., 2019:6; Mnyani, Tait, Armstrong, Blaauw, Chersichand & Buchmann, Peters & McIntyre, 2017:17; Jama et al., 2017:43). WHO and UNICEF (2016:3) guidelines for optimal breastfeeding recommend EBF for the first six months and they continued breastfeeding for two years or longer, irrespective of their HIV status. Breastfeeding accompanied by adherence to HIV treatment gives HIV-exposed infants the best chance to survive and thrive. The practice of EBF among HIV-positive mothers could be attributed to the HIV and breastfeeding policy, which promotes EBF for the first six months.

5.2.3.8 Illness preventing EBF

Only a few mothers (n=10) reported illness preventing the practice of EBF. The mothers reported that illnesses such as epilepsy, HIV as well as previous breast surgery were among the illnesses that prevented them from practicing EBF Regression analysis showed no significant difference in EBF practice between those who experienced illness and those who did not. This is in contrast with the results reported in the literature, which showed that mothers with certain medical conditions like mastitis, engorged breasts and cracked nipples were unlikely to practice EBF (Mensah et al., 2017:3). In Namibia, just as in other countries, the WHO recommends that breast conditions should be treated and mothers supported, to practise and continue breastfeeding as much as possible (WHO, 2017:2).

5.2.3.9 Previous experience on EBF

Previous breastfeeding experience was not associated with the practice of EBF in this study. The results showed no difference between mothers with previous experience

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and those without experience. These results are incongruent with previous studies. Babakazo et al. (2015:4) reported that previous breastfeeding experience is a predictor of subsequent EBF practice.

In the same way, a review of literature demonstrated that mothers with negative previous breastfeeding experiences, such as pain and a lack of sleep were less likely to breastfeed exclusively (Nieuwoudt et al., 2019:14). In the present study, it was not determined whether the previous breastfeeding experience was positive or negative. Mothers who successfully practised EBF are likely to be more confident to practice it with subsequent babies (Schafer, Campo, Colaizy, Mulder, Breheny & Ashida, 2017:3104). Likewise, mothers with negative experiences of breastfeeding during the postpartum period are likely to stop practising EBF (Xiao, Loke, Zhu, Gong, Shi & Ngai, 2020:8). It is easy for mothers who have failed before to start considering other feeding options once they experience a challenge during breastfeeding.

5.2.3.10 Attitudes

This study showed no significant difference between the attitude towards the practice of EBF with mean attitude scores of 54.93 (SD 5.75) for EBF mothers and 54.42 (SD 4.12) for the non-EBF mothers. The regression analysis showed that the attitude of the mothers was not a predictor of EBF practices. Despite the lack of significant difference between the two groups, the results of the present study were in the expected direction, as most studies associate positive attitudes with practice. Mothers with positive attitudes are more likely to practice EBF than mothers with a negative attitude (Mohamed et al., 2018:9). The results are in agreement with the study by Mundagowa et al. (2019:1) which showed a positive attitude towards EBF among mothers. However, in contrast to the study by Mundagowa et al. (2019:1), that found a high percentage (84%) of the mothers had a positive attitude towards EBF but low levels of EBF (36%), high levels of EBF was reported in the present study.

The high EBF prevalence and positive attitude of the mothers in this study may be attributed to the high knowledge score of the mothers. High knowledge level and good previous breastfeeding experiences were found to improve mothers' attitude towards EBF (Mohamed et al., 2018:8).

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Regarding the objective that relates to psychosocial and biophysical factors, only two variables showed a significant difference. These variables were the number of pregnancies and the number of children. Mothers with more than two pregnancies and more than two children were more likely to practice EBF (OR=2.9, CI=1.0 to 8.4, p=0.05), (OR=3.2, CI=1.0 to 10.1, p=0.05). For the other variables, odd's ratio's indicated influence in the expected direction, but the effect size might have been too small to detect a significant difference between groups.

5.2.4. Objective 3: To identify and describe the socio-cultural factors that promote EBF among mothers.

5.2.4.1 Social factors

Mothers who received encouragement and support from health care workers, namely, health education on early initiation of breastfeeding, benefits of EBF and the correct positioning and latching of the baby during breastfeeding, were not more likely to practice EBF in this study. There were no significant differences in the practice of EBF between the groups; namely, those who received support (86.4% were EBF) and those who did not get support from health care professionals (95.2% were EBF).

However, the results do show that the majority (84.4%) of the mothers received support from health care professionals regarding EBF practice. This could explain the high EBF prevalence rate reported in this study because the literature reveals that mothers who receive healthcare support on EBF are more likely to practise EBF (Jama et al., 2017:12; Adeniyi et al., 2019:4; Ella et al., 2016:101).

Furthermore, the study explored the role of partner support and family support in the practice of EBF. There were no significant differences reported in EBF between those who received partner or family support and those who did not receive such support. By contrast, other studies found that mothers with strong family and partner support are more likely to breastfeed, compared with those without support (Bhattacharjee et al., 2019:6; Jama et al., 2017:9). In addition, it has been reported that a lack of partner or family support hinders the practice of EBF (Kimani-Murage et al., 2017:323, Mensah, et al., 2017:5).

In this study, no significant differences were noted among the groups receiving support and those not receiving partner and family support. Although support was not

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associated with EBF practice, 65.4% of women indicated that they were facing family constraints. This means that the support was not optimal and such continued family constraints may eventually lead to women discontinuing EBF.

5.2.4.2 Cultural factors

The results of the study showed that cultural factors did not predict EBF practices. None of the cultural aspects, including acceptability of EBF in the culture, the use of herbs, traditional ceremonies, practice of sex during breastfeeding and family practices showed any significant differences between participants who practiced EBF and those who did not.

Cultural beliefs identified in most developing African communities include the mother's views of having insufficient milk. Breast milk is regarded to be nutritionally inadequate and colostrum is regarded as immature, 'dirty' milk, sour, difficult to digest and is sometimes compared to pus (Kimani-Murage et al., 2017:324). The results of this study are in contrast to the literature that strongly suggests that cultural factors influence EBF practices.

Studies by Kimani-Murage et al. (2017:324-325) and Rogers et al. (2011:2033) reported that negative cultural beliefs such as colostrum being considered dirty and breast milk causing diarrhoea to discourage the practice of EBF. Cultural beliefs that deny sexual intercourse during breastfeeding have resulted in mothers stopping breastfeeding (Mbekenga et al., 2013:4). Culture as a factor in the practice of EBF is difficult to interpret, due to differences in cultural practices from place to place, and because some cultural practices tend to have a negative effect, while others have a positive effect towards EBF.

This study showed the mothers reported being engaged in some traditional practices which could mean that they did not practice EBF. For example, 26.6% of women reported partaking in traditional ceremonies where other practices are provided; suggesting that they did not practice EBF. Almost a third of the mothers (33.3% and 36% respectively) reported that their culture had habits of using herbs and giving special foods to babies between 0-6 months. In addition, a third (33.8%) reported that sex was prohibited whilst breastfeeding.

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Furthermore, the practice of covering breasts during breastfeeding mentioned by 50% of the mothers may be an indication that public opinion is not accepting of women practicing breastfeeding in public. The above-mentioned aspects may be barriers to the continuation of EBF.

5.2.5 Objective 4: To determine whether EBF knowledge is associated with EBF

5.2.5.1 Knowledge

The results of this study showed that the mothers had good knowledge about EBF with both groups averaging at least a score of 9 out of 12. There was no significant difference in the knowledge levels between the EBF group and the non-EBF group. These results agree with the findings of Keloglan et al. (2018:225) that reported that high levels of knowledge of EBF did not necessarily affect breastfeeding practice. However, one study by Kimani-Murage et al. (2015:315) reported that mothers with adequate knowledge practiced EBF more than those with poor knowledge. In addition, in our study the knowledge score ranged from 42% to 100%, indicating that some participants had poor knowledge.

In the context of EBF, lack of knowledge on one aspect of EBF can be enough of a reason to fail to practice EBF. It is therefore important to highlight some of the knowledge gaps in this study, despite a high mean knowledge score of 75%.

Just over 50% of the mothers correctly responded that EBF can function as a natural method of contraception (family planning, about 30% incorrectly confirmed that a baby who drinks formula milk is just as healthy as the child who is breastfed exclusively. Also 20.4% of the mothers incorrectly responded that a baby who is exclusively breastfed is more vulnerable (exposed) to infectious diseases than a non-EBF baby, despite the obvious health benefits of EBF for a baby.

5.3 Strengths and Limitations

The major strength of this study is that it explored factors that predict the practice of EBF comprehensively. It covers socio-demographic factors, economic factors, biophysical factors, knowledge, attitudes, and sociocultural factors. The evidence

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generated in this study challenges the existing evidence in terms of the prevalence of EBF, as this study reported a high prevalence of 87.8%. Many studies did not show any statistical significance, suggesting that current evidence on predictors of EBF is inconclusive. Therefore, this study challenges other researchers to explore this subject further.

The study had a number of limitations. Firstly, the study was conducted at only one health care facility in Namibia, thus compromising the degree to which it represents the larger population. While the results may be generalised to the larger population in Namibia, the following should be considered:

- The health facility was in an urban area. The majority (84.8%) of the mothers who were practicing EBF, lived in an urban area.
- Of the women 96% attended ANC, thus it can be assumed that they regularly adhere to health care advice.

Secondly, this study was a cross sectional study and relied on data provided at that particular time, on the EBF practices of mothers. While the data could have been accurate at that time, it does not reflect the practice of EBF of the mothers over a longer period. Therefore, the high prevalence of EBF in this study may not be a true reflection of the practice of EBF in Namibia.

Thirdly, the study was a quantitative study, and therefore could not provide data to explain why the prevalence of EBF was high at 87.8% and yet there were no statistical differences in the factors predicting EBF. However, this is beyond the scope of this study.

Fourthly, the mothers could have responded that they were practicing EBF because they were at the health facility and that was what was expected of them. Mothers could have been asked more questions to determine the consistency in their answers about their breastfeeding practices, rather than using only one question. Also, some mothers may not have understood that giving herbs or cultural remedies constitutes mixed feeding.

Lastly, due to the high prevalence of EBF in this study, it was difficult to test the factors contributing to EBF, statistically. A larger sample size with women randomly recruited

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from the community could provide a different set of results. However, post-hoc analysis using G-Power indicated enough statistical power to detect a medium (0.5) to large (0.8) effect size of the independent variables on the dependent variable.

5.4 Recommendations for Practice

The recommendations for practice will be discussed as per the objectives of the study. The recommendations are summarised in Table 5.1.

Table 5.1 Recommendations according to the study objectives

Objectives	Recommendations for practice
1. To identify and describe the socio-demographic and economic factors that promote EBF among mothers.	New mothers and those with less than two children need more support to be able to practice EBF.
2. To identify and describe the psychosocial and biophysical factors that promote EBF among mothers.	Promote antenatal care services to all women within the community.
3. To identify and describe the socio-cultural factors that promote EBF among mothers.	Health care providers and policy makers should consider adopting sociocultural practices that promote EBF into perinatal care and could involve the mothers' families more.
4. To determine whether EBF knowledge is associated with EBF.	Continuously provide health education support to mothers during the perinatal period.

5.4.1 Recommendation one: New mothers and those with less than two children need more support to be able to practise EBF

The recommendation is that health care providers should provide more support to new mothers and mothers with less than two children. The support should start from the antenatal period and continue throughout the perinatal period. The support should include information as indicated by some of the Ten Steps to successful breastfeeding, namely:

- The benefits of EBF and management of breastfeeding.
- How to position and latch the baby onto the breast.
- How to initiate breastfeeding within a half-hour of birth.

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- How to maintain lactation, even if mothers are separated from their infants, e.g., if employed.
- Encouraging breastfeeding on demand.
- Giving no artificial teats or pacifiers (also called dummies or soothers) to breastfeeding infants.
- Breastfeeding support groups should be established which mothers could be referred to when they are discharged from the hospital or clinic (WHO, 2018:14).

5.4.2 Recommendation two: Expand and promote antenatal care services to all women within the community

Health care providers should not only focus on mothers who come for ANC at health facilities to provide breastfeeding support. Community outreach should be done to ensure that even mothers who are not coming to the facilities receive ANC services.

All mothers should receive health education on EBF and should be encouraged to come for ANC at the health facilities. This can be achieved by having campaigns, outreach programmes by community health care workers, posters at all health care facilities, places of work and the use of social media.

According to the Namibian Baby and Mother Friendly Hospital Initiative (MoHSS, 2011:3), the promotion of the Ten Steps to Successful Breastfeeding should be done, not only at health care facilities but in homes, workplaces and the community in general.

The WHO (2012:2) states that community-based strategies to support EBF, including the implementation of communication campaigns should be tailored to the local context.

5.4.3 Recommendation three: Health care providers and policy makers should consider adopting sociocultural practices that promote EBF into perinatal care and involve the mothers' families.

Sociocultural practices are an unavoidable part of the mother's life, including the practice of EBF. Health care providers and authorities should integrate the aspect of socio-cultural practices by focusing on adopting good practices and eliminating bad practices. Mothers are likely to accept health care services more if their socio-cultural

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practices are taken into consideration. In addition, the nursing curricula of all nursing programmes should include transcultural care, so that all nurses have the necessary knowledge regarding cultural practices. In-service education sessions regarding transcultural care can also be done for nurses who had not had sufficient training. Currently the breastfeeding policy in Namibia is silent on sociocultural practices and breastfeeding.

5.4.4 Recommendation four: Continuously provide health education and support to mothers during the perinatal period.

Health care providers should continuously educate mothers on all aspects of EBF, motivate and support the women to practise EBF beyond the 42 days postpartum period. The current practice is to provide breastfeeding education during ANC and breastfeeding support in the postpartum period, up to six weeks.

The Namibian Baby and Mother Friendly Hospital Initiative (MoHSS, 2011:3) recommends breastfeeding support for up to two years. However, there is no clear strategy on how mothers should be supported to practice EBF beyond the postnatal period of six weeks, which is the last health facility visit. Therefore, this health education, support and motivation should occur throughout the perinatal period, but especially post-delivery in the postnatal period and beyond.

Postnatal women should therefore be encouraged to attend postnatal care and immunization services, where they will be supported and encouraged to practice EBF. Community care workers should follow up with mothers who default on postnatal and immunization care. Should the mothers develop breast complications such as mastitis, engorged breasts, or cracked nipples, they should be treated and managed, to ensure that EBF can continue.

5.5 Recommendations for Future Research

Overall, future studies should consider a community assessed by means of larger sample sizes, which should include both mothers at health facilities and those at home, as well as urban and rural areas. This will give a better picture of the practice of EBF and will generate representativeness that can be reliably tested statistically. Exploring the predictors of EBF using a mixed method explanatory design could enhance the

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understanding on the predictors of EBF. In addition, studies with a narrow focus could help our understanding of the subject better. For example, studies to determine:

- Prevalence of EBF at different age of babies.
- EBF from one month to six months.
- EBF between rural and urban mothers.
- EBF between employed and unemployed mothers.

5.6 Conclusion

The mothers who go to health facilities for maternal health services are likely to follow the advice of health care workers and hence have a higher probability of practising EBF. The high EBF prevalence in this study is an indication that if mothers can be encouraged to attend maternal services, the general EBF prevalence could increase. Although most socio-demographic and economic factors were not associated with EBF, mothers with more than two children and having had more than two pregnancies were more likely to practice EBF.

In terms of psychosocial and biophysical factors, most mothers had a positive attitude towards the practice of EBF. The average knowledge score between mothers who used EBF and those who did not use EBF did not differ significantly. Based on the findings of this study, the researcher avers that it is important for mothers to be encouraged to attend ANC. More EBF support should be provided to primiparous mothers. In addition, it is important to ensure that the mother's knowledge on EBF be put into practice, because having good knowledge may not necessarily mean that EBF is practised.

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ANNEXURES

Annexure 1: Stellenbosch University Research Ethical Approval

UNIVERSITEIT STELLENBOSCH UNIVERSITY

Approved

Response to Modifications

30/09/2019

Project ID #: 10650

HREC Reference #: 819/06/112

Title: Factors that promote exclusive breastfeeding amongst mothers at a hospital in Windhoek, Namibia

Dear Ms Ruusa Nangolo

The **Response to Modifications** received on 20/09/2019 08:33 was reviewed by members of the **Health Research Ethics Committee (HREC)** via Minimal Risk Review procedures on 30/09/2019 and was **approved.**

Please note the following information about your approved research protocol:

Approval date: 30 September 2019

Expiry date: 29 September 2020

Please remember to use your HREC reference number (819/06/112) on any documents or correspondence with the HREC concerning your research protocol.

Translation of the consent document/s to the language applicable to the study participants should be submitted.

Please note that HREC reserves the right to suspend approval and to request changes or clarifications from student applicants. The coordinator will notify the applicant (and if applicable, the supervisor) of the changes or suspension within 1 day of receiving the notice of suspension from HREC. HREC has the prerogative and authority to ask further questions, seek additional information, require further modifications, or monitor the conduct of your research and the consent process.

After Ethical Review:

Please note a template of the progress report is obtainable on https://applyethics.sun.ac.za/Project/Index/16986 and should be submitted to the Committee before the year has expired. The Committee will then consider the continuation of the project for a further year (if necessary). Annually a number of projects may be selected randomly for an external audit.

Provincial and City of Cape Town Approval

Please note that for research at a primary or secondary healthcare facility permission must still be obtained from the relevant authorities (Western Cape Department of Health and/or City Health) to conduct the research as stated in the protocol. Contact persons are Ms Claudette Abrahams at Western Cape Department of Health (healthres@pgwc.gov.za Tel: +27 21 483 9907) and Dr Helene Visser at City Health (Helene.Visser@capetown.gov.za Tel:+27 21 400 3981). Research that will be conducted at any tertiary academic institution requires approval from the relevant hospital manager. Ethics approval is required BEFORE approval can be obtained from these health authorities.

We wish you the best as you conduct your research.

For standard HREC forms and documents please visit: https://applyethics.sun.ac.za/Project/Index/16986

If you have any questions or need further assistance, please contact the HREC office at 021 938 9657.

Sincerely,

Melody E Shana

Coordinator

Health Research Ethics Committee 1

Federal Wide Assurance Number: 00001372

Institutional Review Board (IRB) Number: IRB0006239

The Health Research Ethics Committee complies with the SA National Health Act No.61 2003 as it pertains to health research and the United States Code of Federal Regulations Title 45 Part 46. This committee abides by the ethical norms and principles for research, established by the Declaration of Helsinki, the South African Medical Research Council Guidelines as well as the Guidelines for Ethical Research: Principles Structures and Processes 2016 (Department of Health).

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INVESTIGATOR RESPONSIBILITIES

Protection of Human Research Participants

Some of the responsibilities investigators have when conducting research involving human participants are listed below:

- Conducting the Research: You are responsible for making sure that the research is conducted according to the HREC approved research protocol. You are also responsible for the actions of all your co-investigators and research staff involved with this research.
- Participant Enrolment: You may not recruit or enrol participants prior to the HREC approval date or after the expiration date of HREC approval. All recruitment materials for any form of media must be approved by the HREC prior to their use. If you need to recruit more participants than was noted in your HREC approval letter, you must submit an amendment requesting an increase in the number of participants.
- Informed Consent: You are responsible for obtaining and documenting effective informed consent using only the HREC approved consent documents, and for ensuring that no human participants are involved in research prior to obtaining their informed consent. Please give all participants copies of the signed consent documents. Keep the originals in your secured research files for at least fifteen (15) years.
- Continuing Review: The HREC must review and approve all HREC approved research protocols at intervals appropriate to the degree of risk but not less than once per year. There is no grace period. Prior to the date on which the HREC approval of the research expires, **it is your responsibility to submit the continuing review report in a timely fashion to ensure a lapse in HREC approval does not occur.** If HREC approval of your research lapses, you must stop new participant enrolment, and contact the HREC Office immediately.
- Amendments and Changes: If you wish to amend or change any aspect of your research (such as research design, interventions or procedures, number of participants, participant population, informed consent document, instruments, surveys or recruiting material), you must submit the amendment to the HREC for review using the current Amendment Form. You **may not initiate** any amendments or changes to your research without first obtaining written HREC review and approval. The **only exception** is when it is necessary to eliminate apparent immediate hazards to participants and the HREC should be immediately informed of this necessity.
- Adverse or Unanticipated Events: Any serious adverse events, participant complaints, and all unanticipated problems that involve risks to participants or others, as well as any research-related injuries, occurring at this institution or at other performance sites must be reported to the HREC within **five (5) days** of discovery of the incident. You must also report any instances of serious or continuing problems, or non-compliance with the HREC's requirements for protecting human research participants. The only exception to this policy is that the death of a research participant must be reported in accordance with the Stellenbosch University Health Research Ethics Committee Standard Operating Procedures www.sun25.sun.ac.za/portal/page/portal/Health_Sciences/English/Centres%20and%20Institutions/Research_Development_Support/Ethics/Application_package. All reportable events should be submitted to the HREC using the Serious Adverse Event Report Form.
- Research Record Keeping: You must keep the following research-related records, at a minimum, in a secure location for a minimum of fifteen years; the HREC approved research protocol and all amendments; all informed consent documents; recruiting materials; continuing review reports; adverse or unanticipated events; and all correspondence from the HREC.
- Reports to the MCC and Sponsor: When you submit the required annual report to the MCC or you submit a required report to your Sponsor, you must provide a copy of that report to the HREC. You may submit the report at the time of continuing HREC review.
- Provisions of Emergency Medical Care: When a physician provides emergency medical care to a participant without prior HREC review and approval, to the extent permitted by law, such activities will not be recognized as research nor will the data obtained by any of such activities be used in support of research.
- Final Reports: When you have completed (no further participant enrolment, interactions, interventions or data analysis) or stopped work on your research, you must submit a Final Report to the HREC.
- On-Site Evaluations, MCC Inspections, or Audits: If you are notified that your research will be reviewed or audited by the MCC, the Sponsor, any other external agency or any internal group, you must inform the HREC immediately of the impending audit/evaluation.

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Annexure 2: Namibia Research Ethical Committee Approval

REPUBLIC OF NAMIBIA

Ministry of Health and Social Services

Private Bag 13198
Windhoek
Namibia

Ministerial Building
Harvey Street
Windhoek

Tel: 061 – 203 2507
Fax: 061 – 222558
E-mail: : itashipu87@gmail.com

OFFICE OF THE EXECUTIVE DIRECTOR

Ref: 17/3/3 RMN
Enquiries: Mr. A. Shipanga

Date: 14 October 2019

Ms. Ruusa M. Nangolo
PO Box 90010
Ongwediva
Namibia

Dear Ms. Nangolo

***Re:* FACTORS THAT PROMOTE EXCLUSIVE BREASTFEEDING AMONGST MOTHERS AT A HOSPITAL IN WINDHOEK, NAMIBIA**

1. Reference is made to your application to conduct the above-mentioned study.

2. The proposal has been evaluated and found to have merit.

3. **Kindly be informed that permission to conduct the study has been granted under the following conditions:**

3.1 The data to be collected must only be used for academic purpose;

3.2 No other data should be collected other than the data stated in the proposal;

3.3 Stipulated ethical considerations in the protocol related to the protection of Human Subjects should be observed and adhered to, any violation thereof will lead to termination of the study at any stage;

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3.4 A quarterly report to be submitted to the Ministry's Research Unit;

3.5 Preliminary findings to be submitted upon completion of the study;

3.6 Final report to be submitted upon completion of the study;

3.7 Separate permission should be sought from the Ministry for the publication of the findings.

4. All the cost implications that will result from this study will be the responsibility of the applicant and **not** of the MoHSS.

Yours sincerely,

EXECUTIVE DIRECTOR
MINISTRY OF HEALTH AND SOCIAL SERVICES

BEN NANGOMBE
EXECUTIVE DIRECTOR

"Health for All"

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Annexure 3: Extension of Internship Programme

9-0/0001

REPUBLIC OF NAMIBIA

Ministry of Health and Social Services

Private Bag 13322	Regional Office	Telephone (061) 203-5011
Windhoek	Khomas Region	Telefax (061) 235997
Namibia	Florence Nightingale Street	
Enquiries: Mr. B. Isaacs	Reference: S 4/9	Date: 25 March 2020

OFFICE OF THE DIRECTOR

STAFF MATTER: CONFIDENTIAL

MS. RUUSA M. NANGOLO
P.O.BOX 90010
ONGWEDIVA
NAMIBIA

Dear Ms. Nangolo

RE: APPLICATION FOR THE EXTENSION OF INTERNSHIP PROGRAMME

I have the pleasure to inform you that approval has been granted for the extension for the period of your research project to do a study on "Factors that promote exclusive breastfeeding amongst mothers" at Katutura Health Centre in Khomas Region, Windhoek from 1 April 2020 until 30 September 2020.

The office wishes you success with your research.

Yours sincerely

MRS. PATEMOSHELA HAMUNYELA
ACTING DIRECTOR: KHOMAS REGION

MINISTRY OF HEALTH AND SOCIAL SERVICES
P/BAG 13322 WINDHOEK
2020 -03- 26
KHOMAS REGION
HUMAN RESOURCE OFFICE
REPUBLIC OF NAMIBIA

"Your Health, Our Concern"

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Annexure 4: Permission to Conduct a Research Study at the Windhoek Central Hospital, Namibia

Private Bag 13215 Windhoek Namibia	Harvey Street Windhoek Central Hospital	Tel. No: (061) 203 3024 Fax No: (061) 222886
Enquiries: Ms.S.Iipinge	Ref. 17/3 / 3	Date: 23 March 2020

OFFICE OF THE CHIEF MEDICAL SUPERINTENDENT

Ms.Ruusa Nangolo
P.O.BOX 90010
Ongwediva
0812194742

Dear Ms.Nangolo

SUBJECT: PERMISSION TO CONDUCT A RESEARCH STUDY ON THE FACTORS THAT PROMOTE EXCLUSIVE BREASTFEEDING AMONGST MOTHERS AT WINDHOEK CENTRAL HOSPITAL NAMIBIA.

1. Reference is made to your application to conduct the above-mentioned study.

2. This letter serves to inform you that permission has been granted for you to research on the above mentioned subject as you have requested and does not include any remuneration.

3. Patient/Client's information should be kept confidential at all times.

4. Preliminary findings copy to be submitted to Customer care office, Windhoek Central Hospital upon completion of the study.

Thank you

Yours sincerely

Private Bag 13215
24 -03- 2020
Windhoek Namibia

DR.F.ZAM
ACTING CHIEF MEDICAL SUPERINTENDENT

Stellenbosch University https://scholar.sun.ac.za

Annexure 5: Participant Information Leaflet and Consent Form in English and Oshiwambo

PARTICIPANT INFORMATION LEAFLET AND CONSENT FORM

Title of Research Project: Factors that promote exclusive breastfeeding amongst mothers at a hospital in Windhoek, Namibia	
DETAILS OF PRINCIPAL INVESTIGATOR (PI):	
MRS RUUSA MEGAMENO NANGOLO	**Ethics reference number:10650**
P O BOX 90010, ONGWEDIVA	**PI Contact number: +264812194742**

We would like to invite you to take part in a research project. Please take some time to read the information presented here, which will explain the details of this project. Please ask the researcher any questions about any part of this project that you do not fully understand. It is very important that you are completely satisfied that you clearly understand what this research entails and how you could be involved.

Your participation is **entirely voluntary,** and you are free to decline to participate. In other words, you may choose to take part, or you may choose not to take part. Nothing bad will come of it if you say no: it will not affect you negatively in any way whatsoever. Refusal to participate will involve no penalty or loss of benefits or reduction in the level of care to which you are otherwise entitled to. You are also free to withdraw from the study at any point, even if you do agree to take part initially.

This study has been approved by the **Health Research Ethics Committee at Stellenbosch University.** The study will be conducted according to the ethical guidelines and principles of the International Declaration of Helsinki, the South African Guidelines for Good Clinical Practice (2006), the Medical Research Council (MRC) Ethical Guidelines for Research (2002), and the Department of Health Ethics in Health Research: Principles, Processes and Studies (2015).

What is this research study all about?

- The study will be conducted in a government health facility namely the Katutura Health Centre (KHC) located in Windhoek, Namibia.
- The aim of this study is to investigate the factors that promote exclusive breastfeeding (EBF) amongst mothers at a public health facility namely the Katutura Health Centre (KHC) in Windhoek, Namibia. EBF is the practice of giving a newly born baby breast milk only from the date of birth up to six (6)

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months, without giving any other food; neither liquids nor solids, except when vitamins and minerals are required for medical reasons

- The researcher will distribute the questionnaire to the participants for self-completion in a postnatal waiting area to all mothers caring for infants between the ages of 0-6 months.

Why do we invite you to participate?

- You are invited to participate in this study because you have a baby between the ages of 0-6 months, irrespective of whether you are currently breastfeeding or not.

What will your responsibilities be?

- You are expected to complete a questionnaire during one of your routine postnatal visits while you are waiting to be seen or after being seen.
- The researcher will assist you should you not understand the questions.

Will you benefit from taking part in this research?

- There is no direct benefit to you, but it is expected that the results of this study will help to develop strategies that can promote exclusive breastfeeding among mothers.

Are there any risks involved in your taking part in this research?

- The study holds minimal risks to you.
- The only anticipated risks for this study is the discomfort that you may experience due to completing the questionnaire. It will take between ten (10) to twenty-five (25) minutes to complete the questionnaire.

If you do not agree to take part, what alternatives do you have?

- If you choose not to take part in the study, you will not be forced to or be prejudiced against in any way, you may also withdraw or stop completing the questionnaire at any time.

Who will have access to your medical records?

- We will not access your medical records.

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- The questionnaires will be accessed by the researcher, the statistician and the supervisor only and will be kept in a lockable cabinet by the researcher, with no other person besides the ones mentioned having access to the questionnaire. All information collected will be treated as confidential and protected. If it is used in a publication or in a thesis, the identity of the participant will remain anonymous.
- Questionnaires will not contain personal identification, only codes will be used. Informed consent forms and questionnaires will be stored separately.

Will you be paid to take part in this study and are there any costs involved?

- You will not be compensated to take part in the study, and you will not have to pay for anything if you do take part. Snacks will be provided in appreciation for your participation.

Is there anything else that you should know or do?

- You can contact Dr. Talitha Crowley on +27769453993 if you have any further queries or if you encounter any problems.
- You can phone the Health Research Ethics Committee at 021 938 9677/9819 if there is still something that your study researcher has not explained to you, or if you have a complaint.
- You will receive a copy of this information and the consent form.

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Declaration by participant

By signing below, I ***(name)*** ……. agree to take part in a research study entitled: Factors that promote exclusive breastfeeding amongst mothers at a public health facility in Windhoek, Namibia.

I declare that:

- I have read this information and the consent form, or it was read to me, and it is written in a language in which I am fluent and with which I am comfortable.
- I have had a chance to ask questions and I am satisfied that all my questions have been answered.
- I understand that taking part in this study is **voluntary,** and that I have not been pressurised into taking part.
- I may choose to leave the study at any time, and I am aware this. I will not be penalised or prejudiced in any way.
- I may be asked to leave the study before it has finished, if the researcher feels that it is in my best interests, or if I do not follow the study plan that we have agreed on.

Signed at (*place*) ……. **(*Date*)** ……. **2020.**

…… ……

Signature of participant **Signature of witness**

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Declaration by investigator

I ***(name)*** …… declare that:

- I explained the information in this document in a simple and in a clear manner to ***(name)*** ……
- I encouraged her to ask questions and to take enough time to answer them.
- I am satisfied that she completely understands all the aspects of the research, as discussed above.
- I did/did not use an interpreter. (*If an interpreter is used then the interpreter must sign the declaration below.)*

Signed at (*place*) .....…….....…… **(*Date*)** ……...……. **2020.**

…… ……

Signature of investigator **Signature of witness**

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OFOOLOMA YEPITIKILO

OKAFO KOMAUYELELE GAAKUTHIMBINGA NOOFOOLOMA

Oshipalanyolo shoshikonga shekongo lyomauyelele: Omikalo dhini tadhi humitha komeho eyamutho lyokontulo akuke mokati koomeme mushimwe shomiipangelo yaVenduka moNamibia	
UUYELELE WOMUKONGI GOMAUYELELE:	
MRS RUUSA MEGAMENO NANGOLO	**Onomola yomukalo gonzo yuuyelele:10650**
P O BOX 90010, ONGWEDIVA	**Onomola yongodhi yomukongi gomauyelele: +264812194742**

Oto indilwa nesimaneko enene wu kuthe ombinga moshikonga shekongo lyomauyelele shika. Osha simana opo wu kale wu na euvoko lyomuule kombinga yoshikonga shika nankene to vulu oku kala omukuthimbinga musho, onkene kutha ethimbo wu leshe okafo komauyelele haka, hoka ta ka fatulula nokundjandjukununa muule kombinga yoshikonga shekongo lyomauyelele ngaka.Oto vulu wo oku pula gumwe gomokangundu kaakongi yomauyelele nenge omundokotola kehe ngele ope na shoka kuuvite kombinga yoshikonga shekongo lyomauyelele shika.Ekuthombinga lyoye ka lyi li pathiminiko na owu na uuthemba wokutinda oku kutha ombinga.Niitya yimwe oto vulu oku kala wa kutha ombinga nenge oto vulu oku kala ino kutha ombinga.Koneka kutya kape na iilanduli tayi ku adha uuna wa tokola oku kala inoo kutha ombinga, ano ngele owa tindi oku kutha ombinga nena ito kanitha uuwanawa wa sha netonatelo lyopaunamiti ndyoka wa nuninwa itali shonopekwa.Owa pitikwa wo oku kala ino tsikila nekuthombinga lyoye moshikonga shika nonando owa li wa itaala petameko.

Ekongo lyuuyelele ndika olya pewa epitikilo nokukwashilipaleka kokomitiye yina sha nomapekapeko osho wo egongelo lyuuyelele miikwaundjolowele moshiputudhilo shopombanda sha Stellenbosch. Epekapeko ndika otali ningwa meikankamekelo loompango nomalandulathano ngoka ga tulwa po kongongahangano onkwashilipaleki ya Helsinki, Omisindalandu go South African Good Clinical Practice (2006), Medical Research Council (MRC), Ethical Guidelines for Research (2002) nosho wo oshikondo shuundjolowele nomatalululo guukwashilipaleki nomalongekidho gomailongo giikwakupekapekwa (2015).

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Oshikonga shekongo lyomauyelele shika oshili kombinga yashike?

- Oshikonga shekongo lyomauyelele shika otashi ningilwa mushimwe shomiipangelo yaVenduka ano moshipangelo sha Katutura notashi kwatele mo aakuthimbinga ye li lwopomathele gaali nomilongo hamano nane.
- Enenedhiladhilo lyoshikonga shekongo lyomauyelele shika olyo oku konga uuyelele kombinga yomikalo dhoka tadhi vulu oku yambula po oku yamitha kontulo akuke mokati koomeme mushimwe shomiipangelo yaVenduka moNamibia. Uuna taku popiwa okuyamutha kontulo akuke nena okwa dhiladhilwa okupa okanona hoka opo ka valwa omashini gokontulo ageke oku za pevalo sigo omoomwedhi hamano ano okanona itaka pewa iikulya yilwe kakele uuna oovitamine niikwamongwa ya pumbiwa omolwuunamiti.
- Omugongeli gwomauyelele ota ka gandja oombapila dhomapulo pehala mpoka hapu kala oomeme ya tegelela oku pewa ootundi dhomathulo. Oomeme mboka ye na uunona oku za poomwedhi noola sigo oomwedhi hamano oyo ta ya tegelelwa ya kuthe ombinga onkene oyo taa pewa oombapila dhomapulo yedhi yamukule.

Omolwashike to indilwa wu kuthe ombinga?

- Oto indilwa wu kuthe ombinga moshikonga shekongo lyomauyelele shika oshoka ngoye owu li meme e na okanona ke na oomwedhi oku za punola sigo opo'omwedhi hamano.

Oshinakugwanithwa shoye osha shike?

- Oto tegelelwa wu yamukule ombaapila yomapulo ndjoka to pewa mulimwe lyomomasiku goye getalelopo koshipangelo. Ombapila yomapulo ndjika oto vulu oku yi yamukula omanga wa tegelela wu yakulwe nenge konima sho wa yakulwa. Omapulo ota ga kwata ethimbo lyili lwopominute omulongo sigo ominute omilongo mbali nantano dhokuyamukula.Koneka kutya ngele ku uvite ko omapulo gontumba oto vulu oku pula wu yelithilwe ku gumwe gwomaakongi yuuyelele.

Uuwanawa wa shike ta wu ku ziilile mekuthombinga lyoye?

- Kape na uuwanawa wopaumwene ta wu ku ziilile mekuthombinga lyoye ashike iizemo yoshikonga shekongo lyomauyelele shika otayi kwathele mokuthaneka

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omikalo dhoka tadhi vulu oku yambula po okuyamutha kontulo akuke mokati koomeme.

Uuwinayi wa shike ta wu ku ziilile mekuthombinga lyoye?

- Kape na uuwinayi wa sha ta wu ku ziilile mekuthombinga lyoye moshikonga shika, kakele ko ku kala wu uvite uudhigu moku yamukula omapulo ngoka ta ga kwata ethimbo oku za pominute omulongo sigo opominute omilongo mbali nantano.

Oshike to vulu oku ninga ngele ino hala oku kutha ombinga?

- Uuna ino hala oku kutha ombinga, ito kondjithwa nenge wu talike ko nomukalo gulwe. Koneka wo kutya oto vulu oku kala ino tsikila noku yamukula omapulo ethimbo kehe wa hala nonando owa li wa itaala oku kutha ombinga petameko

Oolye taa mono uuyelele woye wopaunamiti?

- Oombapila dhomapulo otadhi leshwa ashike komukongi gwomauyelele, omuyaluli gwiizemo nosho wo omuwiliki gwoshikonga shekongo lyomauyelele shika. Uuyelele awuhe wa gongelwa ota wu kuthwa ko onguuyelele wopaumwene ano oombapila dhomapulo otadhi kalekwa meshala lyagamenwa onkene kape na omuntu gumwe ta pitikwa okudhi lesha kakele kwaamboka ya tumbulwa metetekelo.
- Uuna uuyelele wa longithwa mokunyola oshinyolwa shontumba nena uukwatya womukuthimbinga itawu hololwa.
- Oombapila dhomapulo otadhi longitha ashike ocode na itadhi pula omukuthimbinga a longithe uukwatya wopaumwene, onkene oombapila dhomapulo noofooloma dhoka dha uvithwa kaakuthimbinga otadhi pungulwa momahala gayooloka.

Oto futwa oku kutha ombinga na oto futu sha oku kutha ombinga?

- Ito futwa sha oku kutha ombinga moshikonga shekongo lyomauyelele shika na kape na shoka wu na oku futa opo wu kuthe ombinga. Aakuthimbinga ota ya ka pewa iikulya yopokathimbo ongolupandu.

Ope na sha shilwe shoka wa pumbwa oku shuwa nenge oku ninga?

- Uuna wu na omapulo kombinga yoshinima shontumba oto vulu oku kwatathana nomundokotola Talitha Crowely konomola yongodhi +27769453993.

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- Oto vulu wo okudhengela okomitiye yoHealth Research Ethics konomola yongodhi 0219389677/9819 ngele owu na omapulo kombinga yoshinima shontumba shoka omundokotola ine ku yelithila nenge ngele owu na enyenyeto lyasha.
- Oto ka pewa okopi yokafo komauyelele osho wo ofooloma yepitikilo wu yi pungule.

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Egano lyomukuthimbinga

Ngame (edhina _____ onda tokola oku kala omukuthimbinga moshikonga shekongo lyomauyelele shika, shoka shili koshi yoshipalanyolo “Omikalo dhini tadhi humitha komeho eyamutho lyokontulo akuke mokati koomeme mushimwe shomiipangelo yaVenduka moNamibia.”

Otandi gana mpaka kutya:

- Okafo komauyelele haka noshowo ofooloma yepitikilo oya nyolwa melaka ndyoka ndi uvite onkene onda lesha uuyelele awuhe nenge onde wu leshelwa.
- Onda mona ompito yoku pula omapulo mpoka kandi uvite nomapulo gandje agehe oga yamukulwa.
- Ondi uvite kutya ekuthombinga lyandje moshikonga shekongo lyamauyelele shika kalyi li pathiminiko na inandi thiminikwa oku kutha ombinga.
- Ondi na uuthemba oku kala inandi tsikila noku kutha ombinga ethimbo kehe na kape na iilanduli ya sha tayi adha ndje ano itandi ka tali ka ko momukalo kaa guli nawa.
- Otandi vulu oku pulwa ndi kale inandi tsikila noku kutha ombinga uuna omukongi guuyelele uuvite sha opalela ndje nenge uuna itandi landula omilandu dhoka twa tsa kumwe nadho.

Ya shaininwa (ehala) _____ momasiku _____ /2020

_____ _____

Eshainokaha lyomukuthimbinga **Eshainokaha lyombangi**

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Egano lyomukongi guuyelele

Ngame (edhina) _____ otandi gana mpaka kutya:

- Onda fatululila noku yelithila (edhina lyomukuthimbinga_____ uuyelele wu li mombaapila ndjika.
- Omukuthimbinga onde mu tsa omukumo a pule omapulo nomapulo ge onde ga yamukula nethimbo lyagwana nawa.
- Ondi na einekelo kutya omukuthimbinga oku na euvoko lyomuule kombinga yoshikonga shekongo lyomauyelele shika ngaashi sha fatululwa metetekelo.
- Onda longitha / inandi longitha omutoloki. (Uuna omutoloki a longithwa, omutoloki ngoka oye na shaine egano ndika.)

Ya shaininwa (ehala) _____ momasiku _____/2020

_____ _____

Eshainokaha lyomukuthimbinga **Eshainokaha lyombangi**

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Annexure 6: Instrument/questionnaire in English and Oshiwambo

Questionnaire on the factors that promote exclusive breastfeeding amongst mothers at a hospital in Windhoek, Namibia

As part of my master's degree thesis, I am conducting a survey under the topic: **"Factors that promote exclusive breastfeeding amongst mothers at a hospital in Windhoek, Namibia*".***

Exclusive breastfeeding refers to the practice of giving a newly born baby breast milk only from the date of birth up to six (6) months, without giving the baby any other food; neither liquids nor solids, except when vitamins and minerals are required for medical reasons (WHO, 2015:2).

Non-exclusive breastfeeding means that infants receive breastmilk, baby formula milk from the bottle and other food like soft porridge.

I will appreciate it if you could answer the questions below. The information contained in the questionnaire will be confidential and will be used for research purposes only.

ADMINISTRATIVE INFORMATION

Date: _____

Respondent number: _____

Place: _____

SECTION 1A: SOCIO-DEMOGRAPHIC FACTORS

In this section, the researcher would like to know about your personal as well as your infant's background. Feel free to provide the information in the response column, **all responses are numbered under questions.** Write the number of your response in the response column.

No.	QUESTION	RESPONSE
1.	What is your age?	
2.	What is your highest level of education? 1. None 2. Primary education	

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	3. Secondary education 4. Tertiary education	
3.	What is your marital status? 1. Married 2. Single 3. Widow 4. Divorced	
4.	Where do you live? 1. City (urban) 2. Village (rural)	
5.	What is your employment status? 1. Employed 2. Unemployed 3. Self employed	
CHILD'S INFORMATION		
6.	What is the age of the baby specify in months?	
7.	What is the gender of the baby? 1. Female 2. Male	

SECTION 1B: ECONOMIC STATUS

In this section the researcher would like to know your own and your family's income status. Please feel comfortable to provide the researcher with the relevant information in the response column. Write the number with your response in the response column.

No.	QUESTION	RESPONSE
8.	What is the average family income per month? 1. < N$ 10 000 (low economic status) 2. >N$ 10 000 (higher economic status)	
9.	Does your income meet your family's needs? 1. Yes 2. No 3. Not sure	

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SECTION 2: KNOWLEDGE

In this section the researcher would like to know your knowledge, your understanding and your experiences on exclusive breastfeeding. Kindly indicate with an X in the True or False columns.

No.	Question	True	False
1.	Breast milk provides all the nutrients that a baby needs in the first six (6) months.		
2.	Formula milk for example Nan, should be fed to all babies before breastfeeding.		
3.	Exclusive breastfeeding means that a baby gets only breast milk and no other liquids or foods from 0-6 months.		
4.	Breast milk is the ideal food for babies.		
5.	A baby younger than six (6) months should be breastfed on demand, whenever the baby wants.		
6.	Expressed breast milk can be given to a baby when the mother is away at work or at school.		
7.	A breast-feeding mother should eat healthy food to increase milk production.		
8.	Mothers experiencing difficulties with breast-feeding should seek professional help from nurses, midwives and doctors.		
9.	Colostrum (mothers' first milk) is the best milk for the baby to maintain its immunity.		
10.	Exclusive breastfeeding can function as a natural method of contraception (family planning).		
11.	A baby who is not exclusively breastfed is more vulnerable (exposed) to infectious diseases.		
12.	A baby who drinks formula milk is just as healthy as the child who is breastfed exclusively.		

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SECTION 3: PSYCHOSOCIAL AND BIOPHYSICAL FACTORS

3A: BIOPHYSICAL FACTORS

In this section the researcher would like to know your reproductive health during pregnancy, during birth and during accessibility of reproductive services, please write the number with your response in the response column.

No.	QUESTION	RESPONSE
1.	How many times have you been pregnant? 1. Once 2. Twice 3. More than twice	
2.	When you were pregnant, did you attend antenatal care services? 1. Yes 2. No	
3.	During your antenatal clinic attendance, did you get health education on exclusive breastfeeding? 1. Yes 2. No	
4.	Where was your baby born? 1. Hospital 2. Home	
5.	How was the baby born? 1. Normal delivery 2. Caesarean section (operation)	
6.	How many children do you have? 1. One 2. Two 3. More than two	
7.	Who conducted the delivery? 1. Nurse 2. Doctor 3. Traditional birth attendant	
8.	How long after birth was the baby put to the breast? 1. Immediately	

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	2. Thirty minutes 3. One hour 4. I don't remember	
9.	How long have you been exclusively breastfeeding this baby? 1. Less than 2 months 2. At least 2 months but less than 4 months 3. At least 4 months but less than 6 months 4. At least 6 months If not breastfeeding your baby, please specify the reason why not.	…….. …… ……
10.	During pregnancy have you been tested for HIV? 1. Yes 2. No If No give the reason:	…….. …… ……
11.	During pregnancy did you get counselling on mother to child transmission of HIV? 1. Yes 2. No If No give the reason:	…….. …… ……
12.	What is your HIV status? 1. HIV positive 2. HIV negative 3. Not known 4. Choose not to disclose	
13.	Do you have any other illnesses that prevents you from exclusive breastfeeding? 1. Yes If yes, please specify: 2. No	…….. …… ……

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3B: PREVIOUS BREASTFEEDING EXPERIENCES

In this section the researcher would like to know your previous breastfeeding experience. Kindly write the number with your response in the response column.

No.	QUESTION	RESPONSE
1.	Do you have any previous experience on exclusive breastfeeding? 1. Yes 2. No If the response is No, can you give the reason for not breastfeeding exclusively? **Then proceed to mother's attitude questionnaire, section 3c**	…….. …… ……
2.	How long have you exclusively breastfed your previous child? 1. Less than 2 months 2. At least 2 months but less than 4 months 3. At least 4 months but less than 6 months 4. At least 6 months	
3.	How was your previous experience of exclusive breastfeeding? 1. Good 2. Bad If bad, please explain why:	…….. …… ……
4.	What was your feeling during exclusive breastfeeding? 1. Happy 2. Anxious 3. Depressed	

3C: MOTHER'S ATTITUDE QUESTIONNAIRE

In this section the researcher would like to know your attitude towards breastfeeding exclusively. Kindly indicate with an X in the column with annotation. **Annotation: SA = Strongly Agree (4), A = Agree (3), D = Disagree (2), SD = Strongly Disagree (1)**

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No.	Question	SA	A	D	SD
1.	Breast milk is more convenient (suitable)than formula milk.				
2.	Exclusively breastfeeding will cause breast cancer.				
3.	Exclusive breastfeeding can allow the mothers weight to return to normal earlier than formula feeding.				
4.	Breastfeeding exclusively will make a mother's breasts flabby.				
5.	I would feel embarrassed if someone were to see me breastfeeding in public.				
6.	As a mother I will make every effort to breastfeed exclusively.				
7.	Breastfeeding is old fashioned, and it makes me tired.				
8.	The lack of public facilities for breastfeeding makes it difficult for me to breastfeed exclusively.				
9.	At the age of 0-6 months, mothers should breastfeed babies on demand.				
10.	For working mothers, breast milk can be replaced with formula milk.				
11.	Mothers who do not breastfeed produce less milk.				
12.	Breastfeeding can strengthen the bond between mother and baby.				
13.	Exclusive breastfeeding is more time consuming than formula feeding.				
14.	A mother should give colostrum (first milk) to her baby from the first day until the fourth day.				
15.	Formula milk is more easily digested (absorbed) and has more complete nutritional contents than breast milk.				
16.	A mother experiencing difficulty in breastfeeding should not breastfeed her baby.				
17.	A mother should wash her hands first with soap as well as cleaning her breast with warm water before feeding her baby.				
18.	A busy mother can breastfeed her baby sometimes and give formula at other times.				

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SECTION 4: SOCIO-CULTURAL FACTORS

4A: HEALTHCARE WORKER, FAMILY AND PARTNER SUPPORT QUESTIONNAIRE

In this section the researcher would like to know about the support that you have had since the baby was born. Kindly indicate with an X mark in the YES or NO columns.

No.	Questions	YES	NO
1.	Did you get support and encouragement from health care professionals about the importance of exclusive breastfeeding?		
2.	Did the health care professional inform you about the effects of not exclusively breastfeeding the baby?		
3.	Did the health care professional explain that the early initiation of breastfeeding is very important because the colostrum (first milk) content is good for the baby?		
4.	Did the health care professional give you health education on the correct attachment and positioning of your baby during breastfeeding?		
5.	Did your partner support your decision to exclusively breastfeed your child?		
6.	Did your family support you during the exclusive breastfeeding period?		
7.	Did you encounter any family constraints when you initiated exclusive breastfeeding?		

4B: CULTURAL BELIEFS QUESTIONNAIRE

In this section the researcher would like to know about cultural customs on the intentions to breastfeed exclusively. Please indicate your response with an X mark in the YES or NO columns.

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No.	Question	Yes	No
1.	Is exclusive breastfeeding recommended in your culture?		
2.	Do you perform traditional ceremonies associated with the birth of a baby at the age of 0-6 months where the baby is fed with any other food besides breast milk?		
3.	Is it common to rub herbs, Vaseline or water on the mother's nipple during exclusive breastfeeding?		
4.	Is it common to cover a mother's breast when breastfeeding?		
5.	Do families in your environment have a habit of giving other foods to the baby age of 0-6 months?		
6.	Does your culture prohibit sexual activity while breastfeeding?		
7.	Were you guided by any family member on breastfeeding option practice?		

8. What do you think may promote exclusive breastfeeding amongst mothers?

……

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Thank you for the time to complete this questionnaire, your assistance and your co-operation are greatly appreciated.

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OMBAPILA YOMAPULO

OMIKALO DHINI TADHI HUMITHA KOMEHO EYAMUTHO LYOKONTULO AKUKE MOKATI KOOMEME MUSHIMWE SHOMIIPANGELO YAVENDUKA MONAMIBIA

Ongoshitopolwa sheilongo lyonkatu yandje yopombanda yomaster's degree otandi gongele uuyelele mekwatathano noshipalanyolo shika **"Omikalo dhini tadhi humitha komeho eyamutho lyokontulo akuke mokati koomeme mushimwe shomiipangelo yaVenduka moNamibia."** Uuna taku popiwa **eyamutho lyokontulo akuke** nena okwa dhiladhilwa egandjo lyomahini gokontulo ageke kokanona hoka opo kavalwa, okuza tuu pevalo sigo opoomwedhi hamano shika osha hala kutya okanona itaka pewa iikulya yilwe kakele koovitamine niikwamongwa mbyoka ya pumbiwa omolwuunamiti (WHO, 2015:2). Okanona ngele ota ka pewa omahini gokontulo osho wo omahini ga gwedhwa po gopashingolo (gomoondosha) niikulya yilwe ngaashi etete nikwao yilwe nena shoka kashi shi we eyamutho lyokontulo akuke nenge tutye paukililo.

Nesimaneko enene oto indilwa opo wu kuthe ombinga mokuyamukula omapulo agehe taga adhika mombapila yomapulo ndjika. Omayamukulo goye otaga kuthwa ko onga uuyelele wopaumwene ano oga gamenwa na itaga andjakanekwa palwe kakele kokulongithwa megongelo lyuuyelele woshipekapekwa shika.

UUYELELE WOPAMBELEWA

(Ino udhitha mo sha mokakololo haka)

Esiku:_____

Onomola yomukuthimbinga: _____

Ehala: _____

OSHITOPOLWA 1A: ONDONDO YOMUKUTHIMBINGA MOONDONDO DHAYOOLOKA

Moshitopolwa shika omukongi gwomauyelele ota pumbwa uuyelele kombinga yonakuziwa yoye osho wo yokanona koye. Nyola eyamukulo lyoye mokakololo

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komayamukulo. Gamwe gomomayamukulo ngoka to vulu oku gandja oga nomelwa onkene nyola onomola yeyamukulo ndyoka wa hala mokakololo komayamukulo.

	Omapulo	Omayamukulo
1.	Owu na oomvula ngapi?	……
2.	Onkatu yoye yopombanda melongo oyini? 1.Inandi sikola 2.Oskola yopevi 3.Osekondele 4.Iiputudhilo yopombanda	
3.	Uukwandjokana woye? 1.Onda hokanwa 2.Inandi hokanwa 3.Omuselekadhi 4. Ondahengana	
4.	Oho zi peni? 1.Omondoolopa 2.Okomukunda	
5.	Oho longo shike? 1.Ondi na iilonga 2.Kandi na iilonga 3. Ohandi ilongele kungame mwene	
UUYELELE WOKANONA		
6	Okanona koye oke na oomwedhi ngapi?	
7	Okanona koye okakwashikekookantu? a) Okakiintu b) Okalumentu	

OSHITOPOLWA 1B: ONKALO YOMAHUPILO

Moshitopolwa shika omukongi gwomauyelele ota pumbwa uuyelele kombinga yomahupilo goye naakwanezimo yoye. Nyola eyamukulo lyoye mokakololo

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komauyelele. Gamwe gomomayamukulo ngoka to vulu okugandja oga nomelwa onkene nyola onomola yeyamukulo ndyoka wa hala mokakololo komayamukulo.

	Omapulo	Omayamukulo
8.	Ngoye naakwanezimo yoye ohamu mono iiyemo yithike peni omwedhi kehe? 1.Iiyemo yi li kohi yomayovi omulongo 2.Iiyemo yi vule pomayovi omulonga	
9.	Iiyemo yeni ohayi mu gwanithile po tuu oompumbwe dheni? 1.Eeno 2.Ahawe 3.Konyala	

OSHITOPOLWA 2: ONTSEYO YOMUKUTHIMBINGA

Moshitopolwa shika omukongi gwomauyelele ota pumbwa uuyelele kombinga yontseyo yoye neuvoko lyoye kombinga yoku yamitha kontulo akuke. Oto indilwa wu tule okakombo mokakololo hoka wu uvite ke na eyamukulo lyomondjila.

	Omapulo	Osho	Hasho
1.	Omashini gokontulo ohaga gandja iitungithilutu ayihe mbyoka okanona ta ka pumbwa omwedhi hamano dhopetameko oku za pevalo.		
2.	Okanona kehe opo ka valwa oka pumbwa oku yamuthwa nomahini gomoondosha omanga inaka yamuthwa nomahini gokontulo.		
3.	Uuna taku popiwa okuyamutha kontulo akuke nena okwa dhiladhilwa oku yamutha okanona nomahini gokontulo ageke na itaka pewa iikwakunguluki yilwe nenge iikulya yilwe muule womwedhi hamano dhopetako oku za pevalo.		
4.	Omahini gokontulo ogo iikulya tayi opalele okanona.		
5.	Okanona kehe ke li kohi yoomwedhi hamano oka pumbwa okuyamithwa ethimbo kehe kahala oku yama.		
6.	Uuna meme e li kiilonga nenge kosikola omukalo gwoku yamutha kontulo akuke otagu vulu oku kalekwa po ngele meme ta ikanda e ta pungula omahini noku ga inekelela gulwe a yamuthe okanona.		
7.	Meme ngoka ta yamutha kontulo okwa pumbwa okulya iikulya yi na uundjolowele opo a kale e na omashini ga gwana gokanona.		

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8.	Meme ngoka e na uupyakadhi ngele ta yamutha kontulo okwa pumbwa oku konga ekwatho lyopaunamiti kaapangi, aavalithi nenge oondohotola.		
9.	Okolostrum (omahinigotangogameme) ogasimana mokukoleka aakwiita yolutu yokanona.		
10	Omukalo gokuyamutha kontulo akuke ota gu vulu oku longa ongo'mukalo gwo ku keelela meme a ninge etegelelo osho wo okushonopeka ompito yameme yoku kwatwa kokankela yokoshindalelo.		
11.	Okanona hoka inaka yamuthwa kontulo akuke oke na oompito odhindji dhoku kwatwa komikithi dhomikwayu shi vulithe puhoka kayamithwa kontulo akuke.		
12.	Okanona hoka ha ka yamuthwa nomahini gomoondosha oke na uundjolowele ngaashi hoka haka yamuthwa kontulo akuke.		

OSHITOPOLWA 3: ONKALO YOMUKUTHIMBINGA PAMADHILADHILO NOSHO WO PALUTU

3A: ONKALO YOMUKUTHIMBINGA PALUTU

Moshitopolwa shika omukongi guuyelele ota pumbwa uuyelele kombinga yuukolele woye pethimbo wu li metegelelo nopethimbo lyepulumutho. Ota pumbwa wo uuyelele kombinga ya ngele owu li tuu popepi nomahala ngoka ha ga gandja omayakulo koomeme pethimbo ye li momategelelo. Nyola eyamukulo lyoye mokakololo komauyelele. Gamwe gomomayamukulo ngoka to vulu okugandja oga nomelwa onkene nyola onomola yeyamukulo ndyoka wa hala mokakololo komayamukulo

	Omapulo	Omayamukulo
1.	Owa ninga omategelelo lungapi? 1.Lumwe 2.Lwaali 3.Iikando yivulithe pwiiyali	
2.	Pethimbo wu li metegelelo owa ya tuu komathulo? 1.Eeno 2.Ahawe	
3.	Pethimbo lyomathulo goye owa pewa tuu omapukululo kombinga yoku yamitha kontulo akuke? 1.Eeno	

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	2.Ahawe	
4.	Okanona koye okavalelwa peni? 1.Omoshipangelo 2.Okegumbo	
5.	Okanona koye owe ka vala pamukalo guli ngini? 1.Onde ka vala kungame mwene 2.Onda tandwa	
6.	Owuna unona ungapi? 1.Kamwe 2.Uwaali 3.Uvulithe puuyali	
7.	Olye e ku valitha? 1.Omupangi 2.Omundohotola 3.Omuvalithi gwopamuthigululwakalo	
8.	Okanona oka tulwa kegundji konima yethimbo lyi thike peni oku za pevalo? 1.Oka tulwa kegundji pethimbo olyo tuu ndyoka konima yoku valwa 2.Oka tulwa kegundji konima yominute omilongo ndatu 3.Oka tulwa kegundji konima yowili 4.Itandi dhimbulukwa	
9.	Okanona koye owa kala to ka yamitha kontulo akuke uule wethimbo lyithike peni? 1.Oomwedhi nola sigo mbali 2.Oomwedhi mbali sigo ine 3. oomwedhi ine sigo hamano 4.Oomwedhi hamano Ngele inoyamutha kontulo akuke, ngandja etempelo lyoye.	…… ……
10.	Pethimbo wu li metegelelo owa mona tuu ompito yoku konakonwa ombuto yoHIV? 1.Eeno 2.Ahawe Ngele inomona ompito ngandja etomhelo	…….. ……

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11.	Pethimbo wu li metegelelo owa pewa tuu eshungomwenyo kombinga yetandelo lyombuto yoHIV oku za kumeme oku ya kokanona? 1.Eeno 2.Ahawe Ngele inomona eshungomwenyo ngandja etomhelo.	…… ……
12.	Ngele owa konakonwa ombuto yoHIV pethimbo wu li metegelelo, iizemo yoye yekonakono oya li ngini? 1.Onda monika ombuto yoHIV 2.Inandi monika ombuto yoHIV 3.Kandi shi iizemo yandje 4.Inandi hala okupopya sha kombinga yiizemo yandje	
13.	Owu na uuwehame wontumba mboka ta wu ku imbi oku yamitha kontulo akuke? 1.Eeno Tumbula uuwehame woye 2.Ahawe	

3B: ONTSEYO YOMUKUTHIMBINGA

Moshitopolwa shika omukongi gwomauyelele ota pumbwa uuyelele kombinga yontseyo yoye yoku kala wa yamutha kontulo nale. Nyola eyamukulo lyoye mokakololo komauyelele. Gamwe gomomayamukulo ngoka to vulu okugandja oga nomelwa onkene nyola onomola yeyamukulo ndyoka wa hala mokakololo komayamukulo

	Omapulo	Omayamukulo
1.	Owu na ontseyo yoku yamutha kontulo nale? 1.Eeno 2.Ahawe Ngele eyamukulo lyoye oAhawe, ngandja etompelo loku kala inoyamutha konhulo akuke, ee totsikile nokuyamukula omapulo gomoshitopolwa 3C.	…… …… …… ……
2	Okanona koye kaa ke shi ho wu na paife owe ka yamutha kontulo akuke uule wethimbo lyithike peni?	

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	1.Oomwedhi nola sigo mbali 2.Oomwedhi mbali sigo ine 3. oomwedhi ine sigo hamano 4.Oomwedhi hamano	
3.	Ontseyo yoye yoku kala wa yamutha kontulo nale, oto yi hokolola ngini? 1.Oya li yi li nawa 2.Oya li yili nayi Ngele oya li yili nayi, ngandja etomhelo	…….. ……..
4.	Owali wu uvite ngiini oku kala to yamutha okanona koye kontulo akuke? 1.Onda li nde shi nyanyukilwa 2.Onda li nda limbililwa 3.Osha li ta shi yemateke	

3C: Omapulo kombinga yomaihumbato gameme

Moshitopolwa shika omukongi guuyelele ota pumbwa uuyelele kombinga yomaihumbato goye gokuyamitha. Oto indilwa nesimaneko enene wu tule okakombo mokakololo komayamukulo hoka ke na edhidhidhiliko ta li tsu kumwe neyamukulo lyoye.**Omadhidhiliko: OL = Otandi tsu kumwe nasho lela lela, O = Otandi tsu kumwe nasho, I = Itandi tsu kumwe nasho, IN = Itandi tsu kumwe nasho nando nando.**

	OMAPULO	OL	O	I	IN
1.	Omahini gokontulo oge na ongushu ge vule omahini gomoondosha.				
2.	Oku yamutha kontulo akuke ota ku etelendje okankela yokomagundji.				
3.	Oku yamutha kontulo akuke ota ku kwathele mokugalula oshiviha shameme shivulithe okuyamutha nomahini gomoondosha.				
4.	Oku yamutha kontulo akuke otaku eta omagundji gameme ga kale galala.				
5.	Otandi kala nda sa ohoni ngele tandi monika tandi yamutha kontulo mokati kaantu.				
6.	Ongoomuvali otandi ningi kehe shoka tandi vulu oku ninga opo ndi yamuthe okanona kandje kontulo akuke.				

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7.	Okuyamutha kontulo okoshikulushonale nohaku vulitha ndje.				
8.	Ompumbwe yomahala ta ga opalele goku yamutha momudhingoloko otayi pendje uudhigu moku yamitha kontulo akuke.				
9.	Meme okwa pumbwa okuyamutha okanona ethimbo kehe ka hala oku yama omanga ke li kohi yoomwedhi hamano.				
10.	Oomeme mboka ha yayi kiilonga otaya vulu oku pa uunona wawo omahini gomoondosha pehala lyomahini gokontulo.				
11.	Oomeme mboka ihaya yamutha kontulo kaye na omahini ogendji.				
12.	Okuyamutha kontulo ota ku koleke ekwatathano pokati kameme nokanona ke.				
13.	Oku yamutha kontulo akuke ota ku mana po ethimbo shi vulithe oku yamutha nomahini gomoondosha.				
14.	Meme okwa pumbwa oku pa okanona okolostrum (omahini gotango gameme) oku za mesiku lyevalo sigo omesiku etine.				
15.	Omashini gomoondosha ota ga opalele epunda lyokanona no ge na iitungithilutu ya gwana nawa.				
16.	Meme ngoka e na uupyakadhi ngele ta yamutha kontulo ina pumbwa oku yamutha okanona ke kontulo.				
17.	Meme okwa pumbwa tango oku iyoga koonyala nothewa osho wo oku opaleka omagundji ge nomeya ga lomoka omanga ina yamutha okanona.				
18.	Meme ngoka e na omaipyakidhilo ogendji ota vulu oku yamutha okanona ke kontulo omathimbo gamwe ye te kape wo omahini gomoondosha omathimbo gamwe.				

OSHITOPOLWA 4: IIPAMBELE YONKALATHANO NOSHO WO YOPAMUTHIGULULWAKALO

4A: EYAMBIDHIDHO LYAAKALELIPO YUUNDJOLOWELE, AAKWANEZIMO NOSHO WO OOKUUME KOPANKALATHANO

Moshitopolwa shika omukongi gwomauyelele ota pumbwa uuyelele kombinga ya ngele owa pewa tuu omayambidhidho oku za pevalo lyokanona.

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	Omapulo	Osho	Hasho
1.	Owa tsuwa tuu omukumo kaakelipo yuundjolowele kombinga yesimano lyokuyamutha kontulo akuke?		
2.	Aakalelipo yuundjolowele oye ku lombwela tuu kombinga yuuwinayi woku kala ino yamutha okanona koye kontulo akuke?		
3.	Aakalelipo yuundjolowele oye ku lombwela tuu kutya oku yamutha kontulo akuke oku za pevalo lyokanona okwa simana oshoka okolostrum (omahini gotango gameme) oya pumbiwa kokanona?		
4.	Aakalelipo yuundjolowele oye ku pa tuu elongo kombinga yankene wu na oku kwata okanona pethimbo to ka yamutha kontulo nashoka wuna oku ninga omanga ino ka kutha ko kegundji?		
5.	Kuume koye kopankalathano okwa yambidhidha tuu edhiladhilo lyoye lyoku yamutha kontulo akuke?		
6.	Aakwanezimo yoye oye kupa ngaa oma yambidhidho pethimbo lyoku yamutha okanona kontulo akuke muule woomwedhi hamano dho petameko oku za pevalo?		
7.	Owa tsakaneka uupyakadhi wontumba oku ziilila kaakwanezimo yoye sho wa tameke oku yamutha kontulo akuke?		

4B: OMAITALO GOPAMUTHIGULULWAKALO

Moshitopolwa shika omukongi gomauyelele ota pumbwa uuyelele kombinga yomaitaalo gi lili nogi ili ngoka ta ga adhika momuthigululwakalo goye kombinga yoku yamitha kontulo akuke. Oto indilwa wu tule okakombo mokakololo hoka wu uvite ke na eyamukulo lyomondjila.

	Omapulo	Osho	Hasho
1.	Oku yamutha kontulo okwa pitikwa tuu momuthigulukwalo gweni?		
2.	Momuthigululwakalo gweni ohamu ningwa tuu iituthi yopamuthigululwakalo yi na sha nevalolyokanona mono okanona ke li kohi yoomwedhi hamano ha ka pewa iikulya yilwe yaashi omahini gokontulo?		
3.	Oshili tuu omukalondjiigilile momuthigululwakalo gweni oku gwayeka ondungu yegundji lyameme niihemba, omagadhi govaseline nenge omeya pethimbo ta yamutha kontulo akuke?		
4.	Oshili tuu omukalondjigilile okusiikila egundji lyameme omanga ta yamutha kontulo?		

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5.	Oomeme yomomudhingoloko gwoye ohaya pe uunona wawo iikulya yiilwe yaashi omahini gokontulo omanga uunona wu li kohi yoomwedhi hamano?		
6.	Momuthigululwakalo goye osha pitikwa tuu okuya momilalo omanga to yamutha?		
7.	Ope na gumwe gwomakwanezimo yoye e ku pa omayele wuhogolole okuyamutha kontulo akuke?		

8. Omikalo thini wu wete tathi vulu okuyambulapo oku yamutha kontulo akuke mokati koomeme?

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Annexure 7: Declaration by Language Editor and Technical editing

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TO WHOM IT MAY CONCERN

This is to certify that we Brenda van Rensburg and Hugo Chandler the owners of the above company are both professional freelance proof-readers and editors. We have completed the proofreading, editing, layout, syntax, spelling and grammar check on a 38 767 word/ 159-page **MASTER'S THESIS** titled: **FACTORS THAT PROMOTE EXCLUSIVE BREASTFEEDING AMONGST MOTHERS AT A HOSPITAL IN WINDHOEK, NAMIBIA** for **RUUSA MEGAMENO NANGOLO**, submitted in partial fulfilment of the requirements for the degree of **MASTER OF NURSING SCIENCE** in the **FACULTY OF EDUCATION AND HEALTH** at **STELLENBOSCH UNIVERSITY.**

Brenda van Rensburg Hugo Chandler

_____ _____

Brenda van Rensburg **Hugo Chandler**

Date: 10 December 2020

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Annexure 8: Declaration by Language Translator

Tsenaye Linguistic Services cc

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To whom it may concern

I certify that I am a professional, experienced and accredited translator and editor and that I have translated the Research Instrument entitled**: FACTORS THAT PROMOTE EXCLUSIVE BREASTFEEDIG AMONGST MOTHERS AT A HOSPITAL IN WINDHOEK, NAMIBIA,** from English into Oshiwambo of Ruusa Megameno Nangolo to the best of my ability.

Signed

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